

Railway Age

Vol. 64 February 15, 1918 No. 7



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EDWARD A. SIMMONS, Pres. L. B. SHERMAN, Vice-Pres. HENRY LEE, Vice-Pres & Treas. M. H. WIUM, Secretary.
CHICAGO: Transportation Building. CLEVELAND: Citizens Building. WASHINGTON: Home Life Building.

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ROY V. WRIGHT, Managing Editor.

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EDITORIAL

Railway Age

In every hearing on an application for an increase in freight rates, railroad executives have consistently and emphatically

The Shoe Now on the Other Foot

prophesied disaster in time of emergency if relief were not granted. Shippers, alive only to their own immediate interests, have just as consistently fought any increase in rates on their particular products, or the enactment of regulations which although aimed to increase railroad efficiency or capacity would interfere with the shippers' convenience or special privileges to which they had become accustomed. The predictions of the railway executives have proved true and the shippers are fast awakening to the seriousness of their error. Their industries are suffering and their productive capacity is restricted because of their having crippled not only a faithful servant, but an indispensable one. From a spirit of criticism and fault finding they are rapidly shifting to one of sympathy and support, as is indicated by the article, "Business Papers Advise Shippers," on page 363. While the roads have been taken out of the hands of the regulators who have so willingly and dutifully listened to the shippers in the past, it is to be hoped that these same regulators will not fail to note the change which is now taking place.

There is no new light thrown on the history of the Wabash-Pittsburgh Terminal by the report of the Interstate Commerce Commission, an excerpt from which is published elsewhere in this issue. The report is signed "by the commission" meaning presumably that it

A Poor Business Venture

was prepared by a more or less "expert" hired by the commission and approved of "by the commission." The report characterizes the building of the Wabash-Pittsburgh Terminal as a poor business venture and it was! The Goulds have made rather more than their share of poor business ventures in the railroad field but their entrance into Pittsburgh was about as unfortunate as the worst of them. And yet the Wabash-Pittsburgh was built in order to give Pittsburgh more adequate railroad facilities. Today even the Pennsylvania Railroad directors would acknowledge that Pittsburgh needs more railroad facilities. The Pittsburgh district shippers gained only a fraction of what they would have, had the project been carried out successfully but still they gained something and stand to gain more as time goes on. The investors in this bad business venture lost very heavily. The commission finds in this a proof that it ought to have jurisdiction over railroad security issues. Maybe if the commission had had the power of veto over security issues the independent entrance into Pittsburgh would never have been built. But that is the most that can be said. Is it conceivable that the commission as constituted in 1904 would have done anything constructive? The commissioners could not have done anything constructive. That is not their conception of what they are there for, nor has it been the conception of Congress. The real lesson to be learned by the Wabash-Pittsburgh failure is that an investor must look out for himself. What he can do is to insist on publicity before the investment is made, not ten years after the enterprise has proved a failure.

It takes years to train a skilled mechanic for railroad shop or engine house work. The roads have lost far more skilled

The Problem of Maintaining the Equipment

workers than they can afford, and yet it is of vital importance that the locomotives and cars be kept in the best possible condition. The emergency can be met in one way only and that is by following the British precedent of scientific dilution of labor. The skilled men who still remain in the service must be carefully studied and used as leaders and demonstrators. It is almost a crime under present conditions, for instance, to use a skilled worker on jobs that can be done by unskilled labor, or even by men of a smaller degree of skill or experience. As we have pointed out, time and time again, the railroad shop and engine house forces have struggled along with entirely too little supervision. In the present emergency, and particularly with the large labor turn-over, it is more than ever necessary that adequate supervision be provided. Steps should also be taken by readjustment of wages and conditions to prevent more skilled men from leaving the railroads to go into other industries. Industry and the conduct of the war cannot go forward successfully with a crippled transportation machine. While a certain amount of new equipment may be secured from the builders during the coming months it will be comparatively insignificant in contrast with the equipment now in service which will be called upon to carry the larger part of the burden. Immediate results, and that is what we are after, can best be secured by repairing the cars and locomotives now in service and maintaining them in good serviceable condition.

When last April the Railroads' War Board was established at the national capital Washington became the greatest railroad center in the world. Its importance as a railroad center was increased when on December 28 the government took control of railroad management. The Railroads' War

The Biggest Railroad Center

Board was a committee created voluntarily by the railways and possessing only such authority as they gave it. The director general of railroads is a government official possessing the power of a dictator over both regulation and management. Unified operation of the railways during the war is necessary. Perhaps it was desirable to establish government control of their management, although the *Railway Age* has not changed its opinion that if the laws had been so modified as to give the private managements a fair chance they would have got better results than will be obtained under government control. But of one thing we are sure, and this is that the concentration of control of the railways in Washington is a serious misfortune. Washington is a beautiful city which is very sloppy in winter and very hot in summer, which is inhabited chiefly by government clerks, which has only one industry—politics—and which is therefore the worst place in the United States from which to direct the management of the railways. The story is told of a man, who called on Lincoln when he was President, and began to tell him what the public thought. "Wait a minute," said the President. "When did you get here?" "Last night,"

the man replied. "All right, then," said the President, "you may proceed; but had you been here a week I wouldn't have listened to you, because nobody who has been in Washington a week knows what the public thinks about anything." The man who stays in Washington without leaving it frequently and coming in contact and talking with people elsewhere not only soon does not know what the public thinks, but he soon loses all touch with what is actually going on in the country.

Washington as a Railroad Center

WASHINGTON has no manufactories, no large wholesale houses, no great financial institutions, only one railroad general office, few literary people except those who camp out there a few months at a time to get "copy." Its only industry, as noted in the preceding paragraph, is politics, the staple of its conversation is political gossip, and almost every man who has been there continuously fancies he has become not merely a great statesman, but also a great administrator capable of telling how any big enterprise, from building a powder mill to running the railroads should be handled.

The other great capitals of the world, London, Paris, Berlin, are capitals of industry, finance, commerce, literature, as well as of politics. In consequence, the public men of England, France and Germany, when they are in the capitals, constantly meet in clubs, offices, hotels, homes, at public meetings, the business, professional and literary leaders of the country. Furthermore, they meet them under normal conditions. In Washington public men seldom meet leaders in the professions, commerce, industry and finance except when they go there as suppliants, protestants, or lobbyists. It makes a great deal of difference in the amount they learn from each other whether public men and business and professional men usually meet on friendly and unconventional terms or as our business and professional men and public men usually meet in Washington. The atmosphere of Washington is made up about equally of grapevine telegrams, complaints, statistics, politics and sworn testimony. Our public men would be much more competent to pass intelligently on the industrial affairs of a great nation with the smoke of Pittsburgh or Chicago in their lungs.

Director General of Railroads McAdoo is an able man. He has surrounded himself with men of experience in railway affairs. But both he and they are going to find it extremely hard to keep in actual touch with conditions on the railroads. Their predecessor, the Railroads' War Board, did. Every operating man knows he cannot keep in touch with what is going on on his railroad and do his work efficiently without spending about one-half his time on the road. Many people think railway officers' inspection trips are junkets. On the contrary, they are indispensable to skillful operation. Mr. McAdoo and his staff will not be able to make frequent inspection trips over the railways of the United States. There are 260,000 miles of them. Their opportunities for keeping in touch with transportation conditions will be of the worst. They will be kept fully informed about the pathology of the railroad business but will hear little about its psychology and physiology. They are now being deluged by complaints; but few persons are taking any pains to tell them of the tremendous and heroic exertions that railway officers and employees have made during this terrible winter to keep the lines open. If Mr. McAdoo and his staff were located in New York, Chicago, St. Louis, St. Paul-Minneapolis, they would hear both the good things and the bad things about railway operation, but in Washington, where there are the headquarters of only one railway, they will hear little but the bad things.

The *Railway Age* has not made the foregoing remarks merely to indulge in persiflage at the expense of Washington. It has made them to call attention to a very real danger.

There is nothing more pathetic than the ideas regarding railroad control and management, their proper methods and probable results, that are constantly expressed in some official quarters in Washington. There are more people in that city who never made an inspection trip over a railroad, never were in a shop, and never saw a wreck cleared up, but who have learned all about how to run the railroads from statistics, Interstate Commerce Commission reports and newspapers, than in any other place in the world. Furthermore, some of them have influence—so much influence that they have contributed very greatly toward making railroad regulation a failure. People of this kind will also make government control of railroads a failure if given a chance. There is only one way to run railroads. That is by the process familiarly known among railway men as "railroading." The location of the office of the director general in Washington will be a great handicap to government control. The handicap can be prevented from producing its natural results only by recognizing its existence and acting accordingly.

The Government Standard Locomotives as a War Measure

TO RELIEVE the shortage of power on the eastern roads this country needs more locomotives or better facilities and more experienced help for making locomotive repairs. The problem is not so much the number of locomotives as it is the condition of the power now in operation. Coupled with the great demands of transportation during the past year and the extremely severe winter we are now experiencing, the dilution and the depletion of the ranks of the "railroad mechanic," in addition to inadequate facilities for handling and repairing locomotives, have made the proper maintenance of locomotives a practicable impossibility.

The time has come when something must be done and done promptly to relieve the situation at the earliest possible moment. Better facilities for handling locomotives, both at the shops and at the terminals, are sadly needed and must not be overlooked. New locomotives will help bring relief. The director general of railroads, appreciating this situation, is to buy locomotives for the government.

It is probable that freight locomotives of standard design will be constructed to relieve a shortage of power wherever it may occur. By thus concentrating on a standard, or if more than one type of locomotive is to be built, on a few standards, it is hoped to so speed up production that the builders will be able to make more prompt deliveries and produce the locomotives at a lower unit cost than if but few each of a number of designs were built. This will be true, of course, to a certain extent.

The design of the locomotive or locomotives thus built must be a compromise as they must meet widely varying conditions. To be used indiscriminately over the eastern roads these locomotives must come within the clearance limitations and the permissible axle loading of any of the roads on which it is contemplated using them. This will in many cases provide locomotives to some roads well under the rating usually given the particular type of power in question and thus reduce the standard train loading, which will increase the cost of operation and make a greater number of train movements necessary.

Where a particular road is in need of a large number of locomotives of a certain class—of which designs have been made and locomotives built—which meets its individual needs much better than any standard locomotive the government will build, there appears no good reason for the government not approving their construction. The first cost may perhaps be greater, as undoubtedly the locomotives will

be heavier than those ordered by the government, but the operating economies to be secured from a locomotive designed more particularly to suit local conditions will make the extra cost well worth while. As far as the promptness in deliveries is concerned there is a grave question, provided these special locomotives are ordered in sufficiently large numbers, as to whether or not any serious delay to the output of the builders will be occasioned.

As a war emergency measure, however, the government standard locomotive will provide a certain degree of relief in a large number of cases.

* * *

A standard freight locomotive, to be successful, must as nearly approach the capacity requirements of all the roads on which it is likely to be used as is possible in any compromise arrangement, such as it must be. Judging from the extent to which Mikado type locomotives have been ordered during the past two years and the number of roads on which they are in service, it would seem that this type best meets the average requirements. The Mikado type, together with a switching locomotive of the 0-8-0 type, may be expected to fulfill practically all of the requirements for standard locomotives needed to meet the war emergency.

These locomotives should be so designed and equipped that they may be worked to capacity every minute of the time they are in service; there are few locomotives of the Mikado type that can meet this requirement unless equipped with a mechanical stoker. The importance of efficiency of combustion, evaporation and steam utilization hardly need be mentioned. The economic value of coal has been too thoroughly driven home during the past few weeks to require any elaboration here. In both of the above types the firebox should be fitted with a brick arch; the boiler should contain a combustion chamber and be fitted with a superheater.

There are good reasons other than those directly affecting the performance of the locomotive why every one of these features should be included in any locomotive of the size under consideration. One of the serious difficulties the railroads are contending with in the present crisis is the excessive turnover of employees in the locomotive service, especially among the firemen. For a number of years there has been a growing difficulty in securing high grade men for locomotive firemen, owing to the unattractiveness of the conditions under which they must work. The effect of the features of locomotive equipment specifically mentioned above, together with many others designed purely as labor savers, in improving these adverse conditions is very clearly brought out by the Eight-hour Commission in one of the appendices (see page 373) in its recent report to the President and Congress.

* * *

The problem of standardization is one which requires the exercise of the greatest wisdom in its settlement. Within certain limits standardization possesses undoubted benefits, which, however, may very readily be more than offset by the disadvantages arising from carrying it too far. The locomotive of today is the product of a long and continual process of development. Had a rigid standard been adhered to during any considerable period of this process, we should be depending upon locomotives which we now consider obsolete. But as a war measure, and for the purposes already mentioned, this objection does not hold against a reasonable standardization program. Indeed, such a program may possess certain advantages from the standpoint of production and first cost, and it is essential for the creation of an effective liquid reserve of power available for transfer from one system or section of the country to another. The transfer of a common type, some of which are in use on many roads, from one road to another would not lead to the difficulties of maintenance which must necessarily arise where

locomotives belonging to one railroad, and standard on its lines only, are thus transferred.

To make available all of these advantages, however, the standardization need not and should not be carried beyond the boiler, frames, cylinders, running gear, cab and tender. To standardize the great class of fittings and devices commonly classed as specialties, would be to reduce the available material now in stock and the productive capacity for the turning out of these essential devices, and thereby place a restriction on the speed of locomotive production. Furthermore, to place a discouraging restriction on the continued development and improvement of specialties, including possible developments which may have a direct influence on the efficiency and capacity of the locomotive, or the convenience and facility of operation or maintenance, even for the period of the war, would be a backward step which we can ill afford to take now, or ever.

Relations of Railway

Officers and Employees

RAILWAY OFFICERS have been accused during the last dozen years of many crimes and misdemeanors. Probably no charge ever made against them has attracted more attention or caused more discussion than the accusation of W. G. Lee and A. B. Garretson, heads of two labor brotherhoods, that railway officers have been "lying down," first to discredit the Adamson law and later to discredit government control. Nor has any accusation ever made against them aroused such bitter resentment among railway officers.

The best answer to the charge that railway officers were lying down before government control was adopted is afforded by the facts. In the year 1917, in the face of unprecedented difficulties, and with no increase in facilities, the railways handled more commercial traffic than ever before, and, in addition, a large military traffic. The labor leaders are sore because the report of the Goethals Commission on the operation of the Adamson law disproved the claims they made as to the effects it would produce and sustained the claims the railway officers made. It showed that the law had not reduced hours of work, but had given the members of the brotherhoods a \$61,000,000 increase in wages, which may militate against them getting all the increases they are now seeking.

As to the charge that railway officers have been "lying down" to discredit government control, it is false, unjust and malicious. Consider the irony of the situation! The very men who ordered a nation-wide railroad strike in August, 1916, and who again ordered it in March, 1917, when it was certain that within a few days the country would be at war with Germany, now charge railway officers with lying down! They were prepared to stop every engine, car and train; and now they appear before the bar of public opinion and indignantly accuse railway officers of disloyalty and sabotage. The record of those who make these charges should be a sufficient indication of their motives and purposes.

It is well known to everybody that railway service has been poorer since government control was adopted than it was before. But there can be no doubt as to the main reasons for this. The railways, and especially the eastern lines, were badly congested when the government took control. Even if weather conditions had been normal and there had been no change in control, service would have grown worse; for January almost always is, for various reasons, the hardest month of the year for railroad operation. But the weather was the worst the present generation of railway officers and employees ever had to struggle against. The congestion which already existed and the severe weather are, of course,

the principal reasons of the demoralization which has prevailed. Railway executive and operating officers and most railway employees never worked so hard in any month in their lives as in January.

Besides all the other unfavorable conditions, December and January were a period of transition. The intention to adopt government control was announced early in December and it went into effect toward the end of that month. There was bound to be much uncertainty, anxiety and confusion at such a time. If the Kaiser had chosen the time to make the transfer from private to government control and the devil had made the weather, the operating conditions could not have been more difficult.

There appears to have been another factor of importance which is hard to estimate. There are indications that discipline has been declining among some classes of employees. As already said, most employees recently have worked harder than ever before; but there is a manifest feeling that under government control the officers have not the authority and power of discipline they had before. The attitude assumed in some quarters was illustrated by the outburst of Messrs. Lee and Garretson when they appeared before the Railroad Wage Commission and found some railway officers there. Mr. Garretson said, "We do not intend to take the position of discussing this question with our former employers." It is also illustrated by the way some employees are treating the public. But if railway employees are now employees of the government, are not railway officers now officers of the government? And, if so, has not a division superintendent the same authority over a conductor or brakeman that he had under private control? If not, how long will there be discipline and efficiency?

If the privates in an army should begin to flout their sergeants, lieutenants and captains, and even their colonels and generals, because they were "working for the government," how long would the army be an efficient fighting body? The privates might be loyal to the government; but if they were not loyal and obedient to their officers, the effects would be much the same as if they were not loyal to the government. These statements apply with equal force to railroad operation.

The government should, of course, make clear to the employees—indeed, it has made clear—that it intends to treat all classes fairly as regards wages, conditions of employment and all other matters. But it should also disabuse the mind of the public, of railway officers and of railway employees of the impression which now seems to prevail, that government control means a change in the relations of employees to their officers.

New Books

Proceedings of the International Railway General Foremen's Association. 104 pages, illustrated, 6 in. by 9 in., bound in paper. Published by the association, William Hall, secretary, 1061 West Wabash avenue, Winona, Minn.

Although the General Foremen's Association held no convention in 1917, a successful effort was made to give the members of the association as much benefit from the organization as possible. The predetermined papers and reports were written and advance copies were sent to the members. The official proceedings contains these papers, together with many written discussions on them submitted by members of the association. The important subjects discussed include Engine Failures, Causes and Responsibilities, Methods of Meeting the Requirements of Federal Inspection Laws, Alignment of Locomotive Parts to Give Maximum Service with Minimum Wear, and What Interest Has the Locomotive Foreman with Car Department Matters. The association is to be congratulated upon the fact that even though no convention was held, a year book has been issued.

Letters to the Editor

Service Department on Railways

NEW YORK.

TO THE EDITOR:

Mr. Fritch's letter on "Creation of Service Department on Railways," appearing in your issue of December 7, is certainly most timely and the recommendations based on his long and valuable experience will undoubtedly carry weight with our railroad executives. His conclusions coincide with my own as based on a wide steam and electric railway experience.

It would seem rational that so long as the government contemplates guaranteeing returns on properties taken over it should insist on the maximum economy as well as efficiency of their operation. If the railroad executives, still in control of these properties, do not themselves accomplish this the government assuredly will, through more direct operation. This would be a long step toward actual government ownership, of whose wisdom not all are convinced. Can our railroad executives, in the light of their remarkable recent accomplishments, afford to neglect any opportunity to develop the maximum possible economy and efficiency of their respective properties?

In two details my conclusions differ from those reached by Mr. Fritch:

(1) On a large property the director of "service" or efficiency work should be, of course, a competent man, experienced in this line of work, with the title of The (or an) Assistant to the President, as a member of his personal staff exercising only such authority as may be specifically delegated by the chief executive but with the full force and effect of all his authority. In some organizations I am convinced such work would be handicapped at the outset if directed by a vice-president, as such.

On a smaller property such service work may better be organized and inaugurated, if not directed, by an outside specialist. The organization as outlined is definite and fixed, probably designed as the ultimate organization for some one property or group of properties. It would seem to me the better procedure in any case to inaugurate the work with a minimum "service" organization, building up that force as the results accomplished warrant its establishment. On most properties it will be found that certain departments or phases of the work need more attention than do others; hence, in order that the service department itself shall be efficient this procedure is practically necessary. Further, as such service work must demonstrate its worth it is desirable that not too much be attempted at the outset, that whatever is done be excellently well done and that definite or positive results therefrom be obtained—which will prove a convincing argument for the value of "the service department."

W. B. YEREANCE.

Consulting Engineer and Operator for Public Utilities.

EXPORTATION OF SCRAP IRON OR STEEL.—The War Trade Board calls attention to the fact that the exportation of scrap iron or steel requires an export license, and that any shipper who exports under any different classification (such as second-hand rails, car wheels, etc.) any articles manufactured of iron or steel which are exported for the purpose of being scrapped at destination is guilty of false declaration and is subject to such penalties therefor as the law provides.

Activities of the Railroad Administration

Transportation Conditions Improve; a Waterways Committee Appointed; Standardization

WASHINGTON, D. C.

A MUCH MORE cheerful set of reports of transportation conditions throughout the country has been reaching the office of the Director General of Railroads during the past week as a result of the moderation of the weather, although floods caused by the sudden thaw continue to cause concern. The better movement of coal and of empty cars to the mines has led to a general expectation that the Fuel Administration order for heatless Mondays would soon be rescinded, as it was rescinded as to a large number of southern states last week. Mr. McAdoo and some of his assistants have been in conference with the Fuel Administration on the subject and it was understood for a time that Mr. McAdoo was insisting that the order be rescinded last week, but he was convinced that it was necessary to continue it until the weather allowed coal to be transported more freely and at least until after the holiday on February 12.

The daily statements given out by the Interstate Commerce Commission of reports to Commissioner McChord of congested conditions at various yards and terminals, however, continue to portray a most discouraging state of affairs, and as they represent conditions several days back of the time they are given out the latest reports still show the effect of the most severe weather conditions. In addition to the bad weather, the reports show a serious condition of shortage and bad condition of power, large numbers of bad order cars, shortage of labor for repairs, delays on the road and at terminals, delays by consignees in unloading cars, and a general cramped condition in the yards which makes prompt handling of cars difficult or impossible. The reports of the inspectors are given out in mimeograph form without comment, but by the time they get into the newspapers they have frequently been accompanied by inferences which the reporters have not always reached without assistance, and statements that the conditions are due to deliberate neglect on the part of railroad officers before the period of government control, and in one widely published story it was asserted that the conditions date from the time when government control was decided upon. All of which naturally causes indignation among railroad officers who have long been predicting publicly that their facilities would be found inadequate to the traffic. For example, the report for February 11 stated that in the Pennsylvania Philadelphia yards on February 8 only 79 trains of 2,291 cars were moved, while 58 trains were held because of no power being available, and that there were 2,400 empty coal cars in the yard, only 247 having been moved west during the past 24 hours. There were 44 locomotives out of service for repairs, 12 being held waiting for material. On January 30 there were on hand for city delivery 2,847 cars, available for unloading, while only 1,127 were unloaded. On February 6 of 2,839 cars available only 986 were unloaded.

At Harrisburg yard on February 7 it was reported that of 457 locomotives assigned, 83 were out of service for repairs. The average time for turning engines at Enola enginehouse was given as 6 hours and 3 minutes, at another 6 hr. and 47 min., and at another 7 hr. and 36 min.

On the Middle division on February 7 it was reported that during the previous 24 hours the number of cars delivered was 2,501, and received 3,070, while 10,709 cars were left over for movement to connecting divisions. On February 3 it was reported that of 46 crews started eastward and 48 started westward, 13 eastward crews and 32 westward crews were relieved on the line under the 16-hour law and

one was required to exceed the 16-hour limit. It was also stated that "for each one of the crews involved, initial terminal delay was excessive."

The East Altoona enginehouse, it was stated, furnished 92 locomotives for 37 westbound trains, being short 86 locomotives for 35 trains, and 48 eastbound locomotives were ordered for which only 32 were furnished. There were 39 locomotives turned out of the enginehouse in 24 hours and 42 in the house on which work would not be completed during the next 24 hours.

At Pitcairn yard it was stated that the yards were so full that classified trains were stored in channels foreign to their proper movement, wherever room could be found for them. It was also stated that the shortage of power was aggravated by the use of freight locomotives for passenger service.

On the New York, New Haven & Hartford on February 5 it was stated that the entire movement was 10,238 cars and there remained on hand awaiting movement 13,595 cars. Similar reports were given for other roads but the report on the Pennsylvania was given more in detail than for other roads.

Washington has been suffering from a fuel famine and the local fuel administrators have ascribed the cause principally to transportation conditions, but Mr. McAdoo's office had a check made and showed that during the period when the coal shortage was at its worst there were usually over 100 more cars available for unloading each day than were unloaded.

Waterways Committee Appointed

Director General McAdoo has appointed a committee of three members to investigate the inland and coastwise waterways of the country and advise him as to the best means of putting them to advantageous use in solving the transportation problem:

The personnel of the committee is as follows: Major General W. M. Black, Chief of Engineers, U. S. A., chairman; Walter S. Dickey, of Kansas City, Mo.; G. A. Tomlinson, of Duluth, Minn., and Colonel Charles Keller, Corps of Engineers, U. S. A., secretary.

Work was begun by the committee immediately following its appointment. The initial step was the assignment of Major S. W. Fox and Major John Stewart, of the United States Engineer Corps, to investigate and report at once the condition of the Chesapeake & Ohio Canal with recommendations as to its utilization and capacity for traffic.

Consideration will also be given to the availability of other waterways throughout the country, such as the Henepe, Delaware & Hudson, Morris, New York State Barge, Chesapeake & Delaware and Delaware & Raritan canals. The coastwise, Mississippi and lake traffic will also come in for serious attention.

General Black, who in addition to his strictly military duties, is charged as Chief of Engineers with supervising the improvements of rivers and harbors, is well acquainted with all of the waterways of the country. He has been very active in promoting their employment by commercial interests. Appointment of the Committee on Inland Water Transportation of the Council of National Defense was due in great part to his efforts, and since that appointment was made he has insisted upon the use of the waterways for transportation whenever it was more economical or feasible than the use of other means of transportation. He strongly favors the

policy of giving the best transportation to the nation at a minimum cost, regardless of whether it be by water or rail.

Mr. Dickey, who is a manufacturer of burnt clay products with plants in eight cities, long has been active in promoting waterways transportation improvements, and he was largely instrumental in the organization of the Kansas City-Missouri River Navigation Company. This corporation was financed through public subscription and now efficiently operates a boat line between the two cities.

Mr. Tomlinson is one of the shipping leaders of the Great Lakes region. He is identified with the American Shipbuilding Company and has devoted his energies to the up-building of the shipbuilding industry of the country. His interest in the shallow draft waterways of the Atlantic coast as logical extensions of the deeper waterways of the Great Lakes was largely instrumental in his being named as a member of the committee.

Colonel Keller has for several years been on duty as assistant to the Chief of Engineers with particular charge of the executive duties pertaining to the Inland Waterways Commission. He not only is intimately acquainted with virtually all of the inland waterways of the country, but also with a great number of persons who reside near them.

The committee has been instructed by Mr. McAdoo to devote its first attention to projects which can produce results within the year. It will devote particular attention to correlating rail and water transportation and will report as to various projects which have been suggested as to whether better results can be obtained by the expenditure of money on the water facilities or on rail facilities. Mr. McAdoo's authority under the pending railroad control bill in Congress does not extend to the construction of waterways but he is authorized to make expenditures for their equipment.

Standardization

Standardization of railroad cars and locomotives and their parts is one of the plans on which the railroad administration is working and one by which Director General McAdoo expects to accomplish important results. The administration expects to let contracts for a considerable amount of equipment and power, to be paid for out of government funds, after Congress has passed the bill providing an appropriation for the purpose, and it is expected that contracts will also be placed by individual roads under the supervision of the government through its division of purchases, which is under the direction of John Skelton Williams. To what extent it is proposed to have this division take over purchases, or whether it will confine itself principally to the purchases out of government funds has not been made clear, but it is apparently the intention that even if it does not actually make purchases it shall establish standards to be followed by the railroads in making their purchases while under government control and it is hoped to be able to carry the programme to such an extent that

the standards set by the government will be made permanent. It is understood that for this purpose railroad purchasing agents and experts in various lines will be drafted to form a general purchasing or standardizing board on Mr. McAdoo's staff.

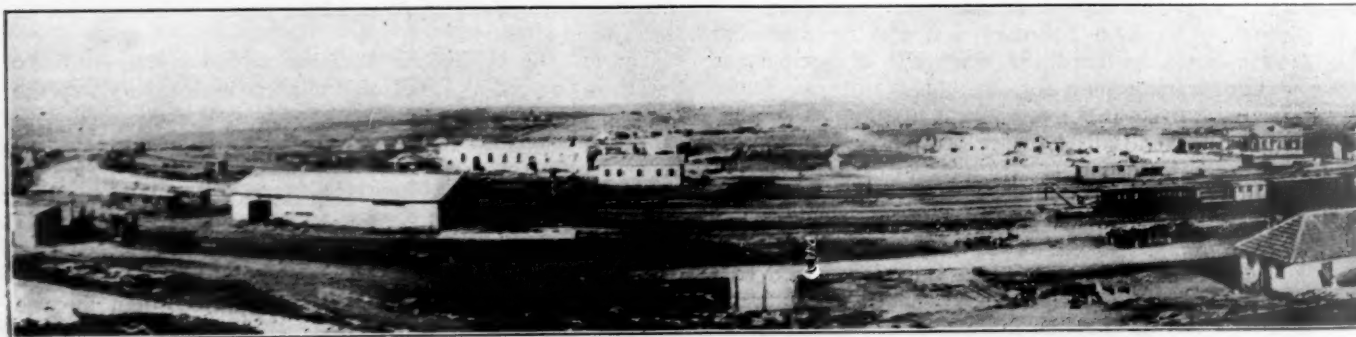
Mr. McAdoo has referred to the possibility of standardization as one of the greatest reforms that can be accomplished in the railroad business and while he has not indicated whether or not he would go so far as to destroy the value of patents or of plants making particular specialties by prescribing certain types as standard to the exclusion of all others he has shown that he has great enthusiasm for the general idea. A study is being made for him of the patent situation. He also expects to be able to reduce prices by the fact that hereafter there will be but one buyer for equipment and supplies.

It is considered likely that the designs of the American Railway Association Committee on Standard Box Cars may be used as the basis for the proposed box car standards.

Inspectors to Report on Service

While Messrs. Lee and Garretson have been charging railroad officers with "laying down" and deliberate inefficiency in managing their roads in an effort to discredit the government, some other people have been talking about some examples of inefficiency and discourtesy on the part of some railroad employees since they became in effect government employees and some complaints have reached Director General McAdoo. For the purpose of checking up on such reports, it has been announced, Mr. McAdoo has sent out a large number of inspectors who are to ride trains and observe the character of the service at ticket offices, in dining cars and at other places, and submit reports to him. Among the reports on which he has acted were several relating to incivility at ticket windows and one of a case in which a dining car conductor found a table for a prominent railroad director and his wife ahead of a long line of people who had been waiting.

Railroad traffic associations and committees, as well as various departmental associations maintained by the railroads, whose status was made uncertain by General Order No. 6, recently issued by Director General McAdoo, have been authorized to continue operations until April 30, before which time a conclusion is expected to be reached as to their permanent status. C. A. Prouty, director of public service and accounting, has been writing to those that have inquired as to their status approving payment of such assessments as may be necessary to meet current expenses from funds already in hand. Organizations to which letters have been sent include classification committees, territorial traffic associations, American Railway Association, Accounting Officers' Associations, Committee on Railway Mail Pay and Bureau of Railway Economics. Luther M. Walter, traffic attorney at Chicago, has been appointed assistant to Director Prouty.



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A Railway Junction in Palestine

Progress of the Railroad Control Bill in Congress

Reported by Senate and House Committees and Discussion

Begun—Differences in Senate and House Drafts

WASHINGTON, D. C.

DISCUSSION of the railroad control bill in the form in which it was amended by the Senate Committee on Interstate Commerce was begun in the Senate on Monday and the House was expected to take up its consideration later in the week. A rather long contest is predicted before its passage, but perhaps not so long as if the bill had not been so carefully considered in the committees of both the house and senate, which each devoted about a month to public hearings and two weeks to perfecting the bill in executive sessions.

Both committees have made important changes since the bill was redrafted by Interstate Commerce Commissioner Anderson, and the house bill, which was reported on Saturday as H. R. 9685, differs considerably from the Senate bill, although most of the language is the same. The senate amendments were described in last week's issue. The formal report of the senate committee was filed on Friday, February 7.

There are differences between the senate and the house bills in the provisions for a limitation of federal control after the war and those relating to rate-making. The Senate bill sets the limit at 18 months after the proclamation of peace and the house bill at two years after the President's peace proclamation. The provisions regarding rate-making are diametrically opposed in principle, although it is likely they would work out the same in practice. The senate bill authorizes the President to initiate rates by filing them with the commission, but the commission, after a hearing, is given final authority. The house bill provides that: "Until and except so far as the President shall from time to time otherwise order, the rates, fares, charges, classification, regulations and practices of carriers under federal control shall during the period of federal control continue to be and to be determined as hitherto. But when in the judgment of the President it is necessary in the public interest he may initiate rates, fares, charges, classifications, regulations, or practices, or changes therein by filing the same with the Interstate Commerce Commission in such form and at such time and upon such notice as he shall direct. All rates, fares, charges, classifications, regulations, and practices, or changes therein so ordered, shall be fair, reasonable, and just; and the Interstate Commerce Commission shall upon complaint make investigation and grant full hearings concerning the fairness, justice, and reasonableness of any rates, fares, charges, classifications, regulations, or practices, or changes therein so ordered by the President; and shall make report of its findings and recommendations concerning the same (which findings and recommendations shall prima facie be taken as correct) to the President for such action as the President may deem required in the public interest."

The senate bill has a provision that there shall be no increase of compensation for additions, improvements or betterments paid for out of earnings for investment or surplus earned during the period of federal control, which is not in the House bill. It would seem that this would, to a considerable extent, prevent the investment of such surplus, and, as the committee suggests in its report, result in throwing an unnecessary burden of financing upon the government.

The house bill has a provision not in the senate draft that nothing in the act shall be construed to affect the existing laws or powers of the states in relation to taxation or police regulations of carriers and another, for the benefit of the short lines, that "nothing in this act shall be construed to affect the routing instructions over and the traffic arrange-

ments of such railroads as may not be taken under federal control by the President unless such arrangements and instructions prejudice the transportation of war materials or of government supplies, in which case the President may change the routing of such materials and supplies as the war and national interests demand." Both bills contain a provision not in the Anderson bill that any net railway operating income in excess of the standard return shall be paid into the treasury and placed in the revolving fund created. Both bills also omit the provision which was in the original bill providing for a workmen's compensation fund for injuries or disabilities. The senate committee's report, giving reasons for interpretations of various sections, follows in part:

Senate Committee Report

Your committee were of opinion that this is the time for war emergency legislation and not the time to settle the many controversial and vexed questions concerning our future transportation policy.

Section 1 authorizes the President to agree with the carriers whose property has been taken over that during the period of federal control each carrier may receive as just compensation—in lieu of all rights arising under due process of law—an annual sum not exceeding its average annual railway operating income for the three years ended June 30, 1917, plus a return at a rate to be fixed by the President upon the cost of additional facilities made during the last six months of 1917, the amount of such net earnings and the cost of such additional facilities to be determined by the Interstate Commerce Commission and certified to the President. This is in substance the President's suggestion. The certification of the commission is to be taken as conclusive for the purpose of such agreement. Any operating income in excess of such standard return is to be paid into the Treasury of the United States and placed in the revolving fund.

About 75 great operating railroads do over 90 per cent of the railroad business. It is believed by your committee that most of these great railroad carriers will accept these terms as a just and fair measure of their constitutional rights. Section 1 further provides that ordinary taxes, national and state, shall, as now, be paid out of operating revenue; but war taxes accruing under the act of October 3, 1917, are to be paid by the companies out of their own funds, or charged against the standard return. In other words, the holders of railroad securities are by section 1 (like holders of other securities) to bear their own just portion of the war burden. Section 1 also requires that each agreement shall contain adequate and appropriate provisions for the maintenance and depreciation of the property and the creation of any reserves or reserve funds found necessary in connection therewith; so that the properties may at the end of federal control be returned to the owners in a condition substantially equivalent to their condition when taken over by the government; and that proper adjustments both in the standard return and in the terms of final settlement may be made. Thus even-handed justice will be worked out as between each company and the federal government.

If the rights of all the railroads making returns to the Interstate Commerce Commission are fixed under the provisions of this section, the government will guarantee approximately \$945,000,000 a year.

Since the preparation of this summary, however, the committee has amended section 1 by inserting a provision author-

izing a return, at such reasonable rate as the President may determine, upon the cost of additional transportation facilities made during the last six months of 1917. This addition, of perhaps 10 to 15 millions, is made in the interest of equality, it appearing that 200 to 250 millions of additional capital has during the last half of 1917 been put into transportation facilities by a comparatively few of the carriers taken under federal control.

There has, of course, been much discussion as to the fairness and justice of the proposed amount of the standard return. It should not be overlooked that the gist of the question is, What would these companies be likely to receive from the courts as just compensation? The amount of just compensation is not a legislative question—it is a judicial question. (*Monongahela Navigation Co. v. U. S.*, 148 U. S., 312.) It follows, in the opinion of your committee, that much of the evidence and discussion concerning the so-called surplus is irrelevant. It is plainly in the public interest—and indeed a war need—that the President be authorized to offer to settle with the owners of these properties on a basis approximately equivalent to that which sound-thinking men would advise the owners they would be likely to receive by court decision. The rights of such owners must be tested by present conditions—not by some theory of capitalization never made operative under federal or state law or generally followed by the courts.

Neither Poverty Nor Riches

Questions of value are always difficult questions. It is highly probable, if not certain, if the whole question were remitted to the courts, they would take as the basis for determining just compensation, the actual net earnings for a reasonable period. During the last three years new investment in the properties now under federal control has been at the rate of approximately 375 millions a year. The year ended June 30, 1915, was one of the poorest in recent railroad history. The other two years have been prosperous years. The average of the three years therefore reflects neither poverty nor riches. The purchasing power of the dollar accruing to the stockholder, as well as to the wage earner, has decreased. Dividends in industrial companies have largely increased. The rate of return upon government bonds, both abroad and in the United States, has largely increased.

The percentage of return upon the value of the railroad property taken under federal control can not be accurately stated: for until the federal valuation, now in process, is completed, no one knows the value of that property. The book value may be taken for certain comparative purposes, as of some significance; it must not be regarded as accurate. The proposed standard return, figured upon the book value of all the companies will give a return not far from 5.32 per cent. Comparing this return to that which accrues to the purchaser of government bonds, it seems large; but government bonds run for a period of 25 or 30 years. The proposed guarantee to the owners of railroad securities may run for only a few months. The government is practically a tenant at will.

After the most careful consideration your committee are of the opinion that the owners of these properties would not be unlikely to receive an award from a court at least equal to the proposed offer; that it is therefore the duty of Congress to authorize the President to make such offers as will prevent patriotic and fair-minded American citizens from resorting to litigations, in time of war, in order to determine their rights against their government.

The standard return thus provided for will, if accepted by the various operating companies, be disposed of substantially as hitherto; that is, for the payment of their fixed charges (and war taxes which remain a burden upon the standard return), for dividends, and if any balance remains,

for so-called surplus. The fixed charges ordinarily fall into interest on bonds and other debt obligations, and leased line rentals, generally in the form of interest and dividends on outstanding bonds and stock of leased companies. These rentals are not, as is sometimes thought, properly a part of operating expenses. They are really disbursements for the use of capital; for it makes no practical difference whether the operating company is consolidated with the leased companies and pays interest and dividends upon its own bonds and stock issued in payment for the subsidiary companies' property, or whether it pays interest and dividends upon the stock and bonds of the leased companies. In either event the disbursement is a disbursement on capital account and not on operating account.

The foregoing makes it clear that the railroads accepting the suggested terms will be fully able to make all their usual disbursements to their security holders. In effect, this regular income is guaranteed by the government to the security holders during the period of federal control.

The stabilizing, confidence-producing effect of such guaranty will, as your committee believe, be of great assistance in future war financing.

The terms above indicated will probably be found just and fairly applicable to the security holders of most of the railroads of the country. But there are certain undeveloped and reorganizing roads whose operating income for three years will not fairly test their right to just compensation. Some special provision to meet the just demands of these companies seems requisite. Section 1, accordingly, provides in the last paragraph thereof that, when the President finds that the condition of non-dividend paying carriers is because of non-operation, receivership, or other undeveloped or abnormal condition such as to make the basis of earnings provided for the other carriers "plainly inequitable," as a fair measure of just compensation, then the President may make with such carrier such agreement as under the circumstances of the particular case he shall find just.

Section 2 provides that in case the agreement provided for in section 1 is not made, the President is authorized to pay not exceeding 90 per cent. of the estimated amount of just compensation.

This, in the opinion of your committee, would tend to stabilize conditions for the security holders of the newer struggling companies, whose rights may not be easy of speedy ascertainment.

Section 2 does not require the President to make any payment at all to such owners, thereby avoiding the danger of offering a premium to unreasonable and greedy litigants.

Section 3 provides easily available facilities safeguarding the constitutional rights of owners to have their just compensation determined by due process of law. It also furnishes another opportunity for settlement of cases which may not be satisfactorily disposed of by agreements in accordance with the standard return, or under the special power of section 1.

Section 3 provides that the Interstate Commerce Commission shall, on the application of the President, or of any carrier, appoint boards of referees, the commission and its forces being made not ineligible as such referees. These referees are armed with the usual powers of judicial tribunals—to summon witnesses, require the production of books, etc., and may hold hearings in Washington and elsewhere, as convenience may serve. They may consolidate and classify cases. These boards are to give full hearings, consider all pertinent facts, and report their findings to the President in a form convenient and available for the making of such agreements as are authorized by section 1. The President and such company may then make an agreement for compensation not in excess of that reported by the referees. Failing such agreement, either the United States or the company may file a petition in the Court of Claims; and in the pro-

ceedings in this court such report is prima facie evidence of the amount of just compensation and of any facts reported.

It is the confident opinion of your committee that section 3 not only effectually guards the constitutional rights of all owners but that the proceedings before the referees will be found so complete and satisfactory that few, if any, cases will ever reach the Court of Claims.

Section 4 provides that the agreed or ascertained just compensation may be increased during federal control by an amount reckoned at a reasonable rate per centum to be fixed by the President upon the cost of additions made while the government is in possession. Manifestly an increase in the property used requires a corresponding increase in the compensation for the use. No increase is allowed for additions paid for out of surplus during the period of federal control. Whether a denial of any return upon surplus earnings invested in additional facilities will result in throwing an unnecessary burden of financing upon the federal government and in the accumulation of a dead surplus will require careful consideration by the senate.

The main purpose of section 5 is to give stability to our financial conditions. From the standard return the railroad companies may without permission pay their regular dividends. Conceivably it may be desirable that some of the prosperous carriers should be permitted somewhat to increase their regular dividends; if so, the President's prior approval must be obtained. Non-dividend payers or irregular dividend payers, whose standard or ascertained return warrants dividends, may with the President's permission be put in the dividend-paying class at such rate as the President may determine.

This section goes upon the theory that during the war the railroad security holders ought to receive certain, regular and moderate dividends; but that extra, unexpected dividends—a common source of speculation and manipulation—should not be permitted.

Section 6 is a very important section. It provides for a revolving fund to be made up from an initial appropriation of \$500,000,000, together with any excess earnings of any of the carriers. This fund is to be available to the President for the purpose of paying the expenses of the federal control, supplying any deficit in the just compensation accruing to any carrier, and to provide for rolling stock and terminals, to be used and accounted for as the President may direct, and to be disposed of as Congress may hereafter by law provide. This contemplates that engines, cars, and perhaps terminals, will be purchased or constructed by and will belong to the United States. This rolling stock will be used wherever war and national needs demand—precisely as the Pullman and other private car lines are now used on the lines of the various carriers as the needs of industry or the demands of the seasons require. The ultimate disposition of this rolling stock must await post-war legislation. This section contemplates that such rolling stock, although owned by the United States, will be used on the lines of the various railroads and the use charged for upon the books of the companies, so that at the expiration of federal control the book-keeping of each railroad company will reflect, as hitherto, the traffic which has moved over each road and the cost of operation.

The section further provides that the President may, on or in connection with the property of any carrier, make or order any company to make additions desirable either for war purposes or in the public interest. Doubtless it will be necessary in connection with army camps and shipyards to make substantial extensions of railroad and other carrier property. Your committee believes that such additions and extensions should become and remain the property of the separate carriers; that there should be no confusion of title as to real estate, tracks, and other fixed property between any railroad company and the United States. As it is possible that some

such additional facilities thus made to the property of various carriers will in times of peace be found worth less than the cost thereof, this section provides that claims for loss or damage accruing from such compelled investment shall be settled either by agreement between the carrier and the President, or, failing such agreement, shall be ascertained by due process of law, as provided in section 3.

As some of the companies may not have the requisite funds to pay for such extensions and additions, the President is authorized from the revolving fund to advance all or any part of such cost, these advances to bear interest at rates and to be payable on such terms as the President may determine, so that the United States may ultimately be fully reimbursed for such advances.

Section 6 also provides that the President may, from the revolving fund, expend such sums as he deems necessary or desirable for the utilization or operation of canals and for the purchase, construction, utilization, and operation of boats and other water carriages on the island and coastwise waterways. It is believed by your committee that much relief may be afforded the rail carriers by a further development of the water carriers and of facilities on these natural water highways.

Section 7 provides for financing the maturities of carriers during the period of federal control. It authorizes the President to purchase for the United States, at prices not exceeding par, any securities issued by the railroads, approved by him as consistent with the public interest. Such securities may be sold without loss to the treasury whenever the President deems it desirable, the proceeds of such sale to go back into the revolving fund. The estimates of the maturities for the next four years are as follows:

1918.....	\$182,606,528
1919.....	188,213,052
1920.....	186,526,253
1921.....	440,905,528

Section 8 provides in general terms that the President may execute his powers with relation to the federal control through such agencies as he may determine and fix the reasonable compensation for services rendered in connection therewith, using also the personnel and facilities of the Interstate Commerce Commission and all other governmental bodies.

Section 9 is simply to the effect that nothing contained in this act shall be deemed to restrict the powers heretofore given to the President to take possession and assume control of any and all systems of transportation. It also provides that this act shall apply to any carriers to which federal control may be hereafter extended.

Section 10 provides that so far as not inconsistent with federal control, each of the carriers shall remain subject to all laws and liabilities whether arising under statutes or at common law. It also provides that the President may, whenever in his opinion the public interest so requires, initiate rates by filing the same with the Interstate Commerce Commission, such rates to be fair, reasonable, and just, and that upon complaint the rates thus initiated by him may be reviewed by the Interstate Commerce Commission. In such review the Interstate Commerce Commission may consider all the facts and circumstances existing at the time of the making of the rate. After full hearing the commission may make such findings and orders as are authorized by the act to regulate commerce as amended.

Your committee were of opinion that the commercial organizations of the country should be disturbed as little as the emergency would allow, and that every safeguard should be thrown around the great productive activities of the country and that everything possible be done to inspire confidence in their being protected from unnecessary embarrassment.

Section 11 provides penalties for violation of this act or orders of the President made thereunder.

Section 12 has been inserted at the request of the Depart-

ment of Justice and is intended to provide for continuing the life and status quo of cases pending under the anti-trust and interstate commerce acts.

Section 13 provides that the federal control shall continue not to exceed 18 months after the declaration of peace. It is possible that certain conditions may arise from federal control which will need adjustment before the properties are returned to their owners, and a reasonable period should intervene in which these conditions may be met and adjusted. It may be that the nation will be unwilling to return to the conditions obtaining before the assumption of federal control. Legislation may be demanded radically changing the relation of the government to the railroads from that now existing in the interstate commerce act as amended.

These problems will require time for careful and deliberate consideration. Therefore your committee has suggested a period of 18 months, and they believe it will be found adequate for that purpose.

In section 13 there is also a provision to the effect that the President may, prior to July 1 next, relinquish control of such transportation systems as he may deem not needful or desirable, and may, thereafter, on agreement, relinquish all or any part of any system of transportation.

Your committee also recommends that at any time after July 1, 1918, the President may agree with the owners of all or any part of any system of transportation, when in the opinion of the President further federal control of the same is unnecessary, to relinquish such control to the owners of the roads.

The section also contains a general provision that the President may relinquish all railroads at any time when he shall deem such action needful or desirable.

Your committee have adhered to the set purpose to limit this legislation to war emergency purposes, and to avoid all contentions and controversial questions. We believe that the bill will accomplish these results. It follows closely the President's recommendations. It has in its main provisions and purpose received general approval and comparatively little criticism.

Minority Reports

Senator Poindexter filed a minority report objecting to the inclusion of a time limit and also to the provision authorizing the President to initiate rates subject to review by the commission. This, he said, would be an illogical and unworkable arrangement and it would be a great mistake to restore the railroads to their private owners without in any way changing "the dangerous and unscientific conditions which formerly existed." He advocated a more adequate and extensive government control or operation in the interest of the people.

Senator Cummins also filed a minority report condemning the bill as "dangerously imperfect" and the proposal to leave the roads in the control of the President for 18 months after the war as "utterly abhorrent to the fundamental principles which underlie free government." When peace comes, he said, "the management and operation of the roads should instantly pass to a responsible board, appointed by the President and confirmed by the Senate, governed by law and removed as completely as is humanly possible from the temptation to use authority for personal or partisan advantages."

He also objected to the provision authorizing the President to initiate rates and particularly to the proposed standard of compensation. The estimated \$950,000,000, he asserted, is \$175,000,000 more than what he considers would be fair and just compensation, and amounts to 8.5 per cent upon the par value of all the stock outstanding.

No objection is made to government possession and operation, the only criticism being that "the change was not accomplished immediately after the declaration of war, so

that long before this the confusion incident to the transition would have been overcome."

"It is unfortunate," the report said, "that when, in the last days of December, 1917, the President did act, he left the situation so indefinite and uncertain that nobody knows what railroads have been taken over. Nobody knows whether the men, from the presidents of the companies to the section hands, are working for the government or for their respective corporations, and the morale of the service is seriously impaired. Nobody knows whether the earnings of the railroads belong to the United States or to private companies."

Other objections to the bill were its "failure to provide definitely that additions, betterments and extensions made out of surplus earnings shall belong beneficially to the public and shall not be treated hereafter as capital entitled to a return" and failure to define the position of short-line railroads.

Senator Cummins also presented five amendments carrying out his ideas.

Senator Smith of South Carolina, chairman of the committee on Interstate Commerce, introduced the discussion of the bill with a long speech urging its prompt enactment as a war measure because of its intimate relation to the financial problems of the nation and the bill was made the unfinished business of the Senate.

Senator Kellogg gave notice that he proposed to address the Senate on the bill on Wednesday.

Consideration of the bill in the House was delayed by the unexpected address of the President but Chairman Sims of the Committee on Interstate and Foreign Commerce expected to obtain an agreement for taking it up later in the week.

An abstract of the House committee report follows:

House Committee Report

This measure is war emergency legislation, intended to meet the essential needs growing out of federal control of our greater carrier systems. It is not to be regarded as a bill for government ownership or control of railroads or against government ownership or control of railroads. The bill makes neither for nor against any particular kind of railroad regulation. It undertakes to provide for war needs and only for those.

The act of August 29, 1916, authorized the President in time of war to assume the possession, control, and use of transportation systems. It provided no method for determining the just compensation of the owners of properties thus applied to public use. The right to just compensation is a constitutional right, and the determination of the amount of just compensation is a judicial and not a legislative question.

But Congress may and should provide speedy and easily available judicial machinery for determining this just compensation. (*Monongahela Navigation Co. v. U. S.*, 148 U. S., 312.) It is also desirable that the owners of the properties should, instead of being required to resort to the courts for their rights, be made such offers for just compensation as will probably result in an agreement between them and the United States, determinative of all rights. These two desiderata, together with certain obviously needed supplementary power as to financing during federal control, are the main purposes of this bill.

Section 1 is a fundamentally important section; for it sets the outside limits of the expected agreements. Its sole function is to provide a basis of such just and proper agreements as may eliminate litigation.

This standard provision will doubtless be found applicable to most railroad companies. But there are some new, undeveloped, reorganizing companies for which some special provision ought to be made. The bill accordingly authorizes the President to make such agreement as he may deem just

with companies whose just compensation he finds will plainly not be measured by the three-year earnings' basis.

Naturally there has been much discussion as to the justice of the proposed basis of settlement. Your committee has dealt with this as a practical question. It consequently regards much of the evidence adduced before the committee concerning "surplus" as irrelevant. This is not the time to undertake to settle public policy as to so-called "surplus earnings." The facts are that these companies have during this three-year period had certain earnings; that they are entitled as a constitutional right to have their just compensation adjudicated by the courts; that it is probable—almost certain—that any court would take their average earnings for some reasonable period as persuasive, perhaps conclusive, evidence of such just compensation. Viewing their constitutional right in connection with the great public needs of stabilizing the security market—of restoring and not impairing confidence—your committee are of the opinion that the average earnings of three years is a fair basis for a settlement of the rights of most of these owners against their government and ought to be approved. Nineteen hundred and fifteen was one of the worst years in recent railroad history; the other two years were prosperous years. The average of the three years is therefore a fair test of earning power. Moreover, the investment in the properties of railroads now taken over has been increasing at the rate of about \$375,000,000 a year. The properties the government now has use of are larger by about a billion than the properties that made the earnings of 1915, taken as one of the three years in order to reach the standard return.

It is not pretended that the three-year basis is an accurate mathematical test of just compensation, but your committee does believe it to be a basis essentially just, and one that will be plainly understood, easily workable, and generally approved both by the public and by the security holders.

Section 3 provides "due process of law" for non-agreeing carriers and also authorizes an agreement between the President and any company after report by the referees to be appointed by the Interstate Commerce Commission. It is the belief of your committee that few, if any, cases will ever reach the Court of Claims. This section requires no explanation.

Section 4 provides for increasing compensation as the properties used may increase during the period of federal control.

Section 5 limits dividend disbursements to regular dividends except as the President may otherwise permit. Non-dividend payers may, however, pay dividends as permitted. Manifestly any excess revenues accruing from standard return ought not to be made the basis of speculation or manipulation. Steady, regular income is what is desirable during the period of the war.

Section 6 provides for a revolving fund, to be made up of an appropriation of \$500,000,000 from the treasury and any excess revenue derived from the operation of the companies. This revolving fund may be used by the President to provide equipment, additions, and road extensions and to make advances to the companies so far as necessary for these purposes. This section contemplates direct ownership by the United States of new railroad equipment and perhaps of some terminals. It does not contemplate ownership of such road extensions, tracks, etc., as may be necessary in connection with Army camps, shipyards, etc. In the opinion of your committee the title to such additions and extensions should be in the various companies and not in the United States. But as some such extensions will be made for war purposes and cost more than their value during peace times, the right of the company to have a just portion of this compulsory investment paid by the government is protected. This section also provides for the construction and utilization of transportation facilities on our waterways. The burden on

our rail carriers may be much lightened if we make proper use of these great natural highways.

Section 7 provides for government financing of maturities and other necessary capital requirements of the companies during federal control. Securities purchased may, if the President finds it desirable, be sold at not less than cost.

Sections 8 and 10 require no comment.

Section 9 guards the rights of certain railroads which may not be taken over not to have their traffic and routing arrangements unnecessarily injured.

Rate-Making

Section 11 embodies the theory of the President's proclamation, that there shall be no unnecessary disturbance of established methods of procedure by and against the carrier companies. While it is undoubtedly true that during the period of federal control the revenues of the railroads are government money, section 11 (certainly when read in connection with section 8, which authorizes the President to execute his powers through such agencies as he may determine) permits the utilization of the various carrier companies, as a species of government agencies, so that for all practical purposes passengers, shippers, and employees will proceed as hitherto in the exercise and enforcement of all their accustomed rights.

But when federal control for war purposes requires changed methods the President must have power to make such changes. This raises an interesting problem as to rate making. The rate fabric of the country is now based upon the competitive theory. In many instances rail rates have been made for the purposes of meeting, if not destroying, water competition. Section 6, as already pointed out, contemplates that the federal government shall from its own resources create new facilities upon the waterways. Manifestly during federal control rail rates ought not to be made for the purpose of destroying or "meeting water competition." The nation should not compete with itself. It should furnish transportation service, both rail and water, at just and reasonable rates. On the other hand, it is manifestly impracticable and undesirable for the President or any agencies he may create to readjust our present rate fabric. Comparatively little of it ought to be readjusted, and such necessary adjustment should come tentatively and only to meet obvious needs. Your committee is of the opinion that the section 11 now drafted meets the situation in the least objectionable and in the most practicable way. It provides that, except as the President may from time to time otherwise order, rates shall continue to be and to be determined as hitherto.

This leaves the Interstate Commerce Commission and the state commissions to proceed, precisely as hitherto, in the determination of all rate questions unless and until the President, in the exercise of the war power, shall order otherwise. But when the public interest so requires the President may initiate rates, filing them with the Interstate Commerce Commission, to take effect upon such notice as he shall direct. Such rates are to be "fair, reasonable, and just." But to guard against even remote possibilities of error the section provides that upon complaint the Interstate Commerce Commission shall make investigation, grant full hearings "concerning the fairness, justice, and reasonableness" of rates so ordered by the President, and "make report of its findings and recommendations" to the President for such action as he shall deem required in the public interest.

It was suggested that after such hearing the Interstate Commerce Commission should be given power to make orders, thus in effect overriding the President's war power to make rates on transportation systems in his possession and control because of war conditions. It would, in the opinion of your committee, be most unseemly to authorize the Interstate Commerce Commission to overrule the Presi-

dent in the exercise of his war powers—indeed, of any other powers. It should not be overlooked that the President is responsible for the financial results of operating these great carrier systems with gross revenues approximating \$4,000,000,000. It will not be contended that during federal control the carrier systems should not be substantially self-supporting. The general tax payer ought not to be left to make up a large deficit accruing from carrier operations. Wages and prices of materials are exceedingly high and may rise still further. The volume of traffic, great during the past two years, may fall off. Weather conditions have for two months been unprecedentedly bad, making operation extraordinarily expensive. The President, responsible for the general financial result, from factors so numerous, so uncertain and so varying, must be given power commensurate with his responsibility.

Moreover, if the Interstate Commerce Commission were given final power to make rates, what would be its standard of "reasonableness and justice"? Plainly the old, competitive standard unless the present statute is repealed or greatly modified. To authorize the Interstate Commerce Commission to overrule the President and to make such orders as to rates as are now permitted under the Interstate Commerce act would be granting an authority to make rates, based on the competitive theory, applicable to a co-ordinated, unified noncompetitive war control. In other words, the Interstate Commerce Commission could not, until Congress supplied a new code, make orders logically applicable to the "justice and reasonableness of rates" made for a unified, co-ordinated system during war time.

We are satisfied that the method proposed of (a) leaving rates, and rate making, undisturbed except as the President otherwise orders; (b) authorizing the President to initiate rates; (c) providing for a review on full hearing by the Interstate Commerce Commission; and (d) the findings and recommendations of the Interstate Commerce Commission to be reported to the President, so that he may, if necessary, revise his own primary determination—is the best solution of this difficult problem. In practice this method will, we think, give to shippers and consignees all the protection they now have under the established practices of the Interstate Commerce Commission, while enabling the President to make such necessary changes as unified war control demands. It gives also the Interstate Commerce Commission an opportunity to review and to discuss fully the "justice, reasonableness, and fairness" of any rate in the light of the war conditions, without now putting upon Congress the impossible burden of providing a new, noncompetitive rate-making code.

Section 12 provides for penalties to be enforced by the usual processes in the courts, and calls for no comment.

Section 13 provides for continuing the life and status quo of cases pending. It is inserted at the request of the Department of Justice.

Section 14 deals with the duration of federal control. It authorizes the President at any time prior to July 1, 1918, to relinquish control of all or any part of any system of transportation which he thinks not necessary or desirable for national or war purposes, and at any time thereafter to make such relinquishment on agreement with the owners; thus in either case ending all further claim for compensation. But this power will in use be of little importance. The main question is when and how to end general federal control.

While these transportation systems were taken over under the war power, it is easily manifest that they ought not to be turned back to their owners immediately upon the return of peace. They might have been taken, they may be kept, under the commerce clause of the Constitution. Section 6 contemplates the investment of a large amount of government money in rolling stock and perhaps in terminals "to be dis-

posed of as Congress may hereafter by law provide." Section 7 contemplates financing the carriers' maturities; these in the years 1918 and 1919 will amount to approximately \$400,000,000.

Unified control will involve substantial changes in the traffic departments of the various carriers, new routing of much traffic, and many other changes from the methods obtaining under the competitive system. It would be just neither to the public nor to the owners of the properties to return the properties to private control without legislation adequately providing fair and reasonable terms for the liquidation of the government's holdings of railroad securities, for the sale or other use of the government's rolling stock, and for other changes incidental to the war control. It may be that the country will never be willing to have the carriers go back to the old system of unco-ordinated, competitive operation. For many years many forms of new and enlarged regulation have been pending before Congress. That some program of constructive, far-reaching policy ought to be worked out before the railroad companies are returned to private control seems too clear for argument.

The majority of your committee, while accepting these views, are of the opinion that a definite period of two years should be set as the time limit within which such legislation should be matured and enacted. Obviously, the period may hereafter be extended if such extension be found necessary in the public interest. The majority are of the opinion that the insertion of a definite time limit for federal control puts the burden of presenting proper measures of constructive legislation where it belongs—upon the owners of the properties—and that it is inconsistent with the public interest to allow a war control, admittedly assumed for emergency purposes only, to extend indefinitely in time of peace. A minority of your committee hold a different view. They believe that the public interest is much better safeguarded if the federal control herein and heretofore provided for shall be continued until Congress shall after the war otherwise provide.

Clifford Thorne has wired shippers urging them to write to congressmen and senators protesting against giving the President power to initiate rates.

A CHIEF COMMISSIONER FOR AUSTRALIAN RAILWAYS.—As a sequel to the completion of the East-West Transcontinental Railway, there has recently been passed by the Federal Parliament of Australia an act authorizing the creation of a Railway Department, to be presided over by a Chief Commissioner. In addition to the East-West Railway there are two others opened, the aggregate of the three lines being 1,730 miles. Moreover, there are others under construction and proposed. The new commissioner has now been appointed in the person of Norris G. Bell, who has been the chief engineer and acting commissioner. Considerable satisfaction is expressed locally at this appointment, as it does away with all political control. All railways, rolling stock, lands, wharves, stations, machinery, etc., are to be vested in the commissioner, who is to hold office for a period of five years and be paid a salary of £2,000 (\$9,720) a year. The new commissioner is not allowed to buy any locomotives, rolling stock, or motive or tractive power, nor any material of a greater value than £1,000 (\$4,860) from outside the Commonwealth, without the sanction of the Minister, nor without the permission of the latter may any contract be placed where the amount involved exceeds the sum of £5,000 (\$24,360). No increase in the salary of an employee getting more than £500 (\$2,430) a year may be given without the sanction of the Governor-General, while the rights of employees are conserved by a provision which enables an appeal to be made against dismissal by the commissioner or reduction of pay for incapacity or misconduct.—*Railway Gazette, London.*

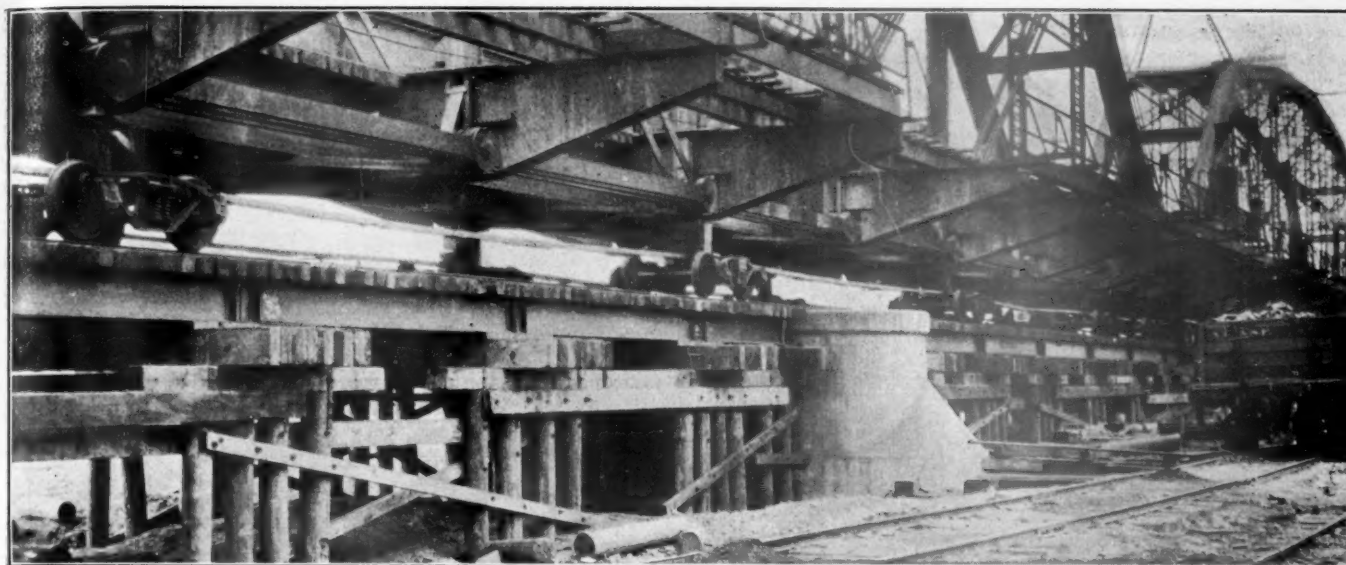


Fig. 1. 4,000-Ton Spans Supported on Trucks Preparatory to Moving

Shifting a 4,000-Ton Bridge on Freight Car Trucks

Three Spans of St. Joseph & Grand Island Structure Over the Missouri River Were Moved 136 Ft.

ON NOVEMBER 15 three through pin-connected truss spans 297½ ft. long weighing a total of 4,000 tons were moved longitudinally a distance of 136 ft. on freight car trucks in 13 min. These spans form part of a bridge of the St. Joseph & Grand Island over the Missouri river at St. Joseph, Mo. This change was made to provide room for a longer draw span required by the United States war department. Other operations incident to the shifting of the spans, such as falsework changes, jacking, restoring tracks,

were found after careful investigation to require its entire renewal.

The piers suffered both from undermining caused by scour of the river bottom and disintegration of the stone masonry below the water line. After an unsuccessful attempt to underpin the pivot pier, it was proposed to build new piers down stream and in line with the old ones so that the existing spans could be shifted transversely to the new piers, but the government refused to sanction this plan and indicated

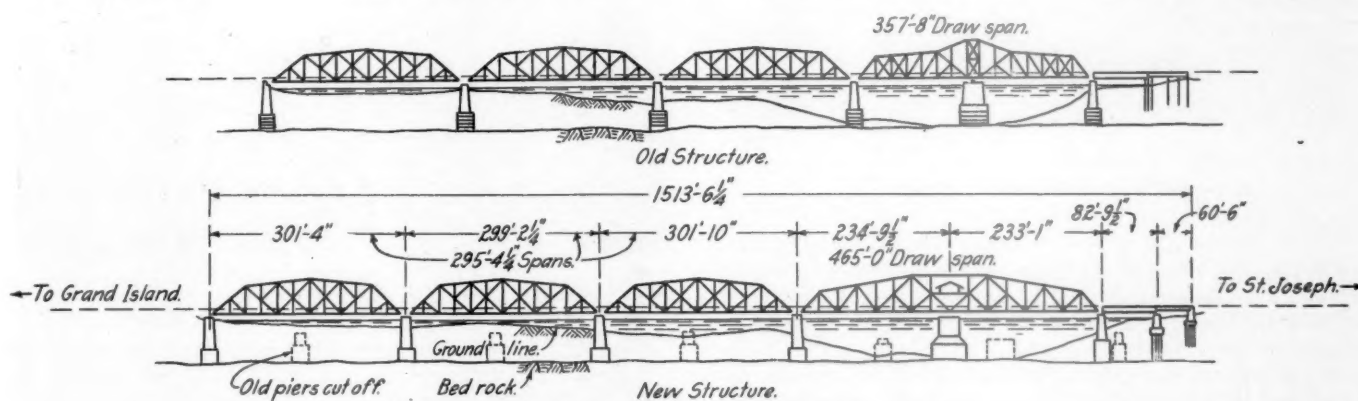


Fig. 2. Elevations of the Old and New Bridges

etc., occupied the better part of a working day. All steps were carried out according to a prearranged plan from which it was found unnecessary to deviate in any way.

This structure carries the trains of the St. Joseph & Grand Island, between St. Joseph, Mo., and Grand Island, Neb., and those of the Chicago, Rock Island and Pacific from St. Joseph to Bellville, Kan., and Topeka. The original bridge was built in 1872, the superstructure being renewed on the old piers and abutments in 1904. The new spans consisted from east to west, of a plate girder approach span, a 357-ft. 8-in. draw span and three 297-ft. 6-in. fixed spans. While the new spans are entirely adequate to handle modern railway equipment, faults developed in the substructure which

that it would not approve any changes which did not embody an increase in the length of the draw span sufficient to provide clear waterways of 200 ft.

This condition being imposed, it was decided to adhere to the present location of the bridge and make room for the longer draw span by shifting the three fixed spans longitudinally west by an amount equal to the difference in the lengths of the two draw spans plus the distance necessary to permit the construction of a new east rest pier just west of the old rest pier. This amounted to a total of 136 ft. 2½ in. and gave ample room for the construction of all of the new piers. The new west abutment and the five new piers supporting the main spans were founded on rock, using the

pneumatic process. One pier and the east abutment are carried on pile foundations.

These new piers were built during the past year. The pivot pier is cylindrical, 31 ft. in diameter with an octagonal footing 50 ft. 6 in. wide. The other piers are of rectangular section except a rest pier for the swing span up stream from the pivot pier which is shaped like a flatiron. The caissons were of timber construction using reinforced concrete con-

struction over the roofs to support the piers until the working chambers were sealed. Three of the caissons were built in a pontoon of octagonal shape from which they were floated later by filling the pontoon with water and removing one side of it. After a caisson was removed the pontoon was pumped out and made ready for building the next caisson.

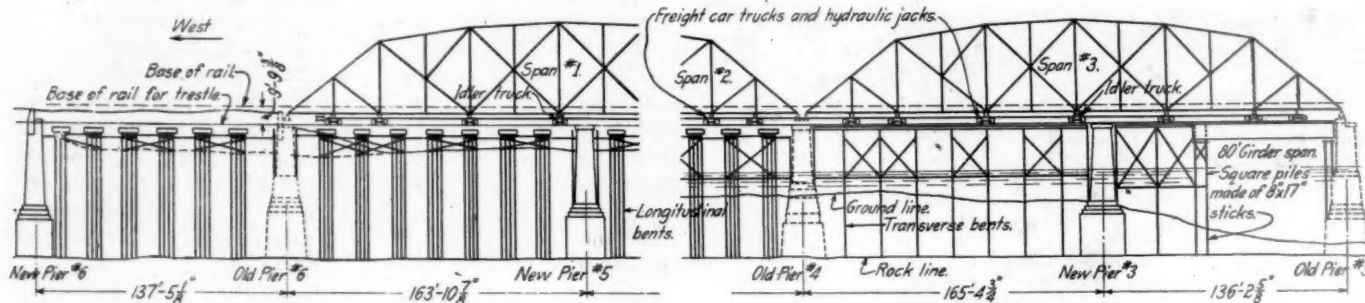


Fig. 3. Part Elevation of the Three Spans Showing the Falsework

struction over the roofs to support the piers until the working chambers were sealed. Three of the caissons were built in a pontoon of octagonal shape from which they were floated later by filling the pontoon with water and removing one side of it. After a caisson was removed the pontoon was pumped out and made ready for building the next caisson.

The Plan Adopted

The plan for moving the three fixed spans was briefly to provide falsework for two standard-gage tracks, one directly under each of the trusses, these tracks to be used by freight car trucks on which to haul the spans simultaneously to their new positions. The tractive power was furnished by lines

were sash-braced and cross-braced in both directions with 6-in. by 14-in. timbers.

Under the east fixed span, the river bed falls off toward the main river channel under the draw span, a condition which demanded a variation in the falsework plan. Between old pier 4 and new pier 3, the bents were placed perpendicular to the track to reduce the obstruction to the stream

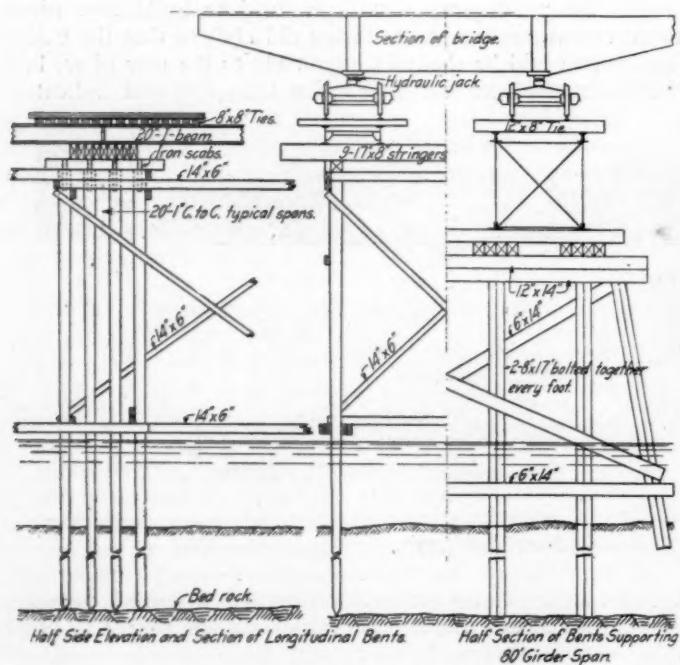


Fig. 4. Falsework Details

from hoisting engines placed back of the new west abutment.

Freedom from settlement and vibration was the prime consideration in the design of the falsework. Under the two westerly spans and between the new and old west abutments the river is shallow and not subject to much current. Consequently it was permissible to place the bents parallel to the

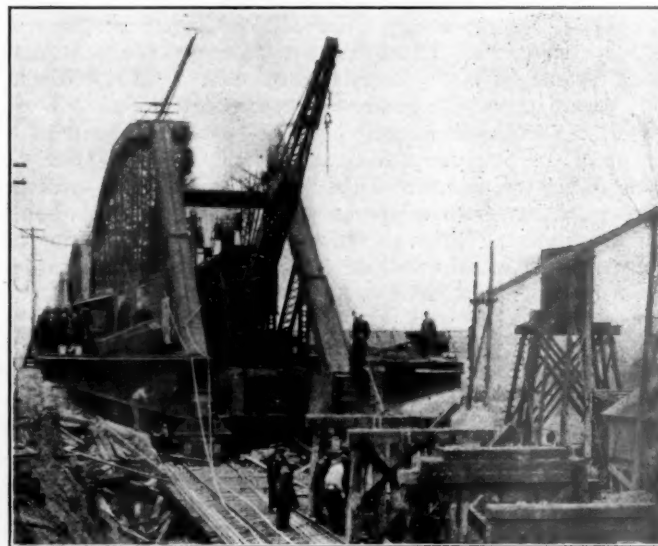


Fig. 5. Tearing Out the Falsework for the Main Track Between the Old and New Abutments. One of the Hauling Tracks Is Shown in the Foreground

flow. In the space between new pier 3 and old pier 3, which forms a part of the new west channel, the water is materially deeper and there is a strong current. Consequently a wider waterway was desirable, so an 80-ft. deck girder span was introduced, supported at the east end by two frame bents standing on offsets on the side of old pier 3 and on the west end on two bents consisting of six square piles, each made of two 8-in. by 17-in. timbers bolted together. To obtain the desired length it was necessary to splice out these timbers, using angle irons for the splice bars. Trestle construction consisting of bents of the same kind occupied the remaining space between the old and new piers 3. The space between the old and new west abutments (piers 6) formed part of the old west approach embankment, so the removal of the fill to permit work on the falsework required the con-

struction of an independent pile trestle to carry the traffic between the two abutments. This is shown in one of the photographs.

One condition imposed by the plan was that the tracks for the moving trucks pass over the tops of the piers. This required that the spans be jacked up to remove the bearing pedestals and the track placed continuous over the piers and falsework. After this work had been completed, the spans

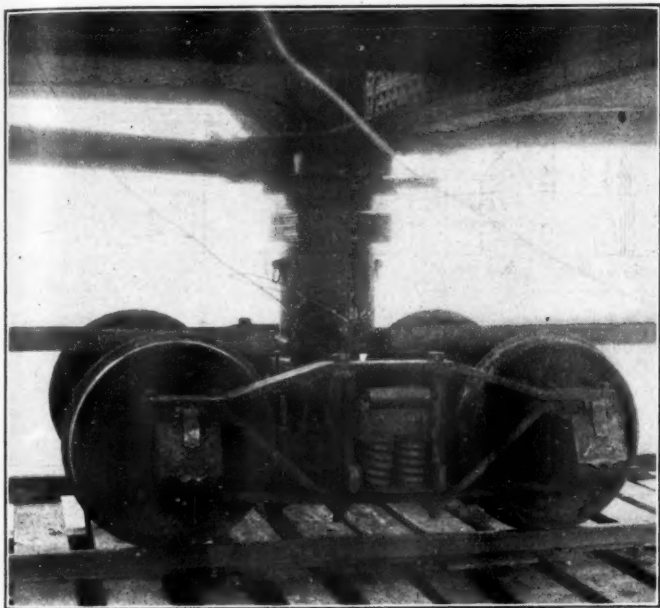


Fig. 6. One of the Hauling Trucks, Showing the Jack and Draft Rigging in Place. Plate Blocking May Also Be Seen in Place Around the Plunger of the Jack

were again brought to bearing on the piers, using wooden blocking instead of the pedestals under the shoes.

Another requirement of the plan was that the spans remain in bearing on the piers for the passage of traffic until all preparations for moving were complete, when it was required that the weight of the structure be transferred quickly to the moving trucks for making the shift. This was ac-

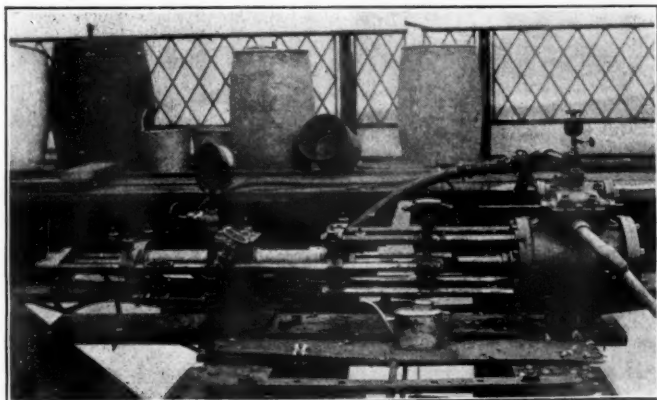


Fig. 7. One of the High Power Pumps Supplying Pressure to the Jacks

complished by the use of high power hydraulic jacks mounted on the trucks and operated in gangs from high power pumps installed on the bridge. The pressure was transmitted to the jacks by a main line pipe consisting of extra-heavy wrought steel pipe with branch lines to the individual jacks of small diameter flexible copper tubing. The photographs show these jacks and the high power hydraulic pump from which the pressure was supplied. The pressure-transmitting

fluid was an alcohol mixture. What appears to be a wire attached to the side of the jack in the photograph of the jack is the copper tubing through which the pressure is transmitted. The jacks under one of the spans were of 500-ton capacity and these under the other two spans of 300-ton capacity. As the average load to which the jacks were subjected in this case was only 70 tons, the pressure on the jacks, pumps and piping was only 2,000 to 2,500 lb. per sq. in. as compared to the capacity pressure of 10,000 lb. per sq. in.

Jacks were placed on the trucks only at panel points 1, 2 and 4 of each span, the trucks under the center panels serving solely as idlers to afford a measure of safety in case of a blowout of one of the jacks. Blocking was maintained on these center panel trucks to within one inch of the steel work. Another safeguard in the jacking was to block up around each of the jack plungers with plates placed on the rim of the jack cylinder. These plates were cut to fit half way around the jack plunger, and were arranged to break the joints, as may be seen in the photographs.

Special Draft Rigging Required

In consequence of the interposition of the jacks between the trucks and the load, an adequate draft rigging was required in the plane of the trucks. This consisted of two lines of structural steel angles made continuous from end to end of the three spans by plate splices at each truck and around the shoes at the ends of the spans. At each truck this

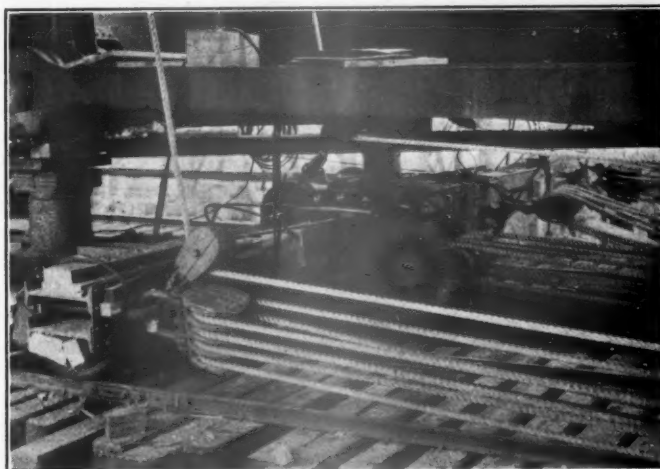


Fig. 8. The Pulling Beam to Which the Tackles Were Attached

connection consisted of a small plate which performed the additional function of a bearing plate for the jack, on top of the truck bolster. At the end bearings of the trusses it consisted of a yoke to transmit the traction around the shoes.

One of the photographs shows the pulling beam through which the tension on the pulling tackles was transmitted to the draft rigging. It consisted of two I-beams held together by batten plates and placed crosswise just ahead of the first two trucks, to which the tackle blocks were bolted or lashed. The pulling rig consisted of four sets of 2-in. rope tackles, each equipped with four-sheave blocks and snatch blocks to give a multiplication of 10 in passing the lines to the spools of the hoisting equipment. The latter consisted of a steam-operated double-drum hoist mounted on a flat car placed at the end of the embankment and a large capacity electric hoist (built for use at the Hell Gate bridge), placed in a house south of the track just back of the abutment.

On the morning of November 15, after the passage of the last trains at 8:15 a. m., the first operation was the removal of the tracks and the tearing out of the temporary trestle between the old and new west abutments. This was accom-

plished largely by the use of locomotive cranes, one standing on the end of the west span and the other on the end of the approach embankment. The next step was to jack up the spans and remove the blocking under the shoes. All was ready for making the shift shortly before noon, and with the giving of a signal the hauling started. The movement was continued without interruption until completed and the total time elapsed was only 13 min. As the movement was practically uniform throughout its duration this is equivalent to an average speed of $10\frac{1}{2}$ ft. per min. The hauling was



Fig. 9. The Motive Power, Steam and Electric Hoists at the West Abutment

stopped at the exact position on a signal from an observer standing on the west end of the superstructure, but buffer timbers were placed against the back wall of the abutment to insure against overtravel.

Following the successful transfer of the span to the new

deck for the railway track but also that for the north highway, so that the flooring for the highway was placed at the same time that the ties and rails for the railway tracks were installed. This work involved a large amount of detail that

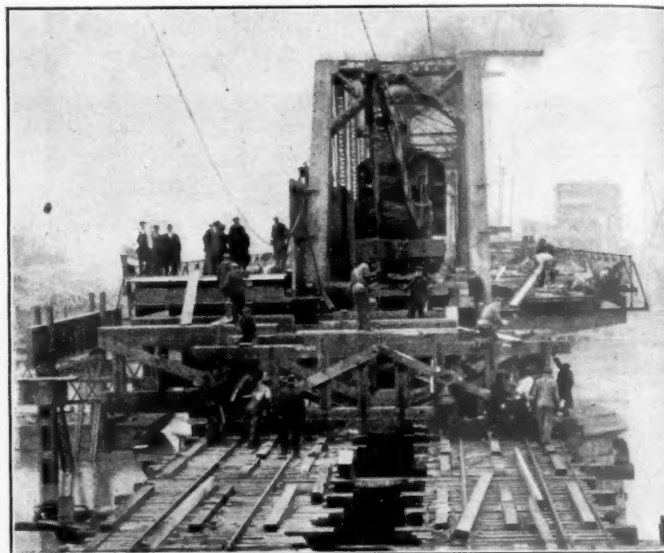


Fig. 11. Placing the Pony Bents to Close the Gap

could not be hurried, but it was greatly expedited by a most complete prearrangement for all operations. For this reason it was unnecessary to saw any lumber during the time that the change was being made. Another measure which expedited the work was the drilling of all holes with an electric drill, and when the gap in the track rails was closed the last rails were cut to length and the bolt holes drilled with an oxy-acetylene torch. The bridge was ready for the passage of trains at 5:30 p. m. The absolute precision with which

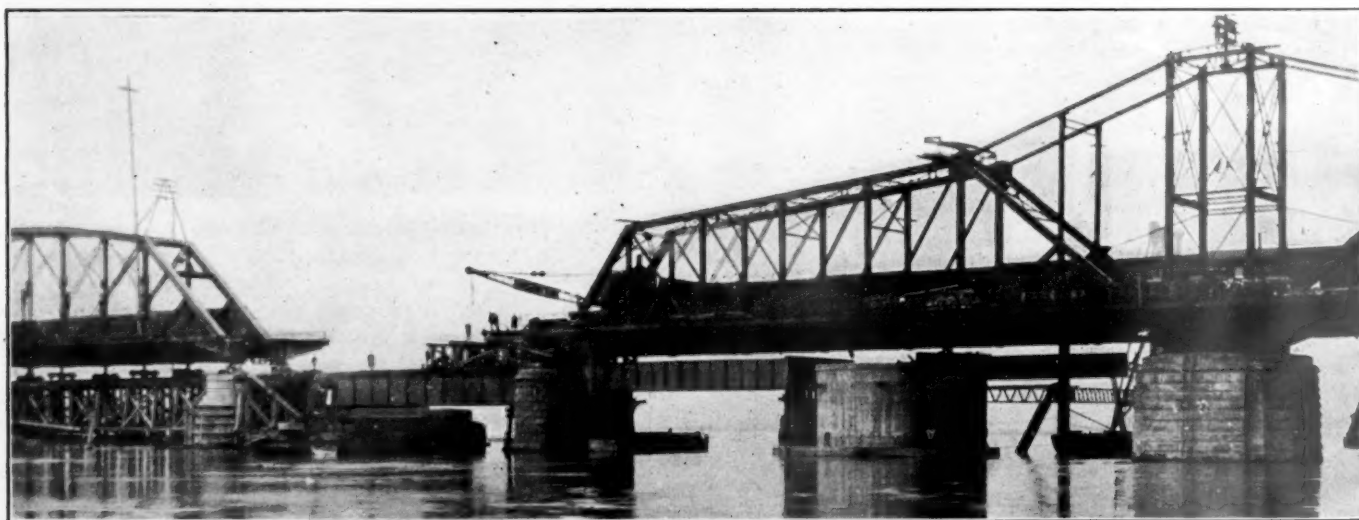


Fig. 10. The Gap Between the Draw Span and Fixed Span No. 3 After the Shift Had Been Completed

piers, work was started on the closing of the gap between the west end of the draw span and the east end of the east fixed span. This space was now occupied only by the falsework on which the span had been moved, with the two hauling tracks about 10 ft. below the rail level of the bridge. To make up this difference in elevation pony bents previously framed were brought from the east approach by a locomotive crane and set into place. Stringers and ties for the deck, already framed for use, were lifted from a barge floating in the river alongside. This work included not only the

each detail of the day's work was completed, testified to the care and accuracy with which each step had been studied and arranged for in advance by the erection forces.

Other Work to Be Done

Following the shifting of the spans, work has been in progress on the erection of the new draw span. It is the intention to erect the new span in the open position, dismantling one half of the old draw span and providing a temporary draw, following the general plan by which this method

has been used in previous draw span renewals. The work on this bridge is being handled by R. L. Huntley, chief engineer of the Union Pacific, under the immediate direction of A. C. Everham, terminal engineer, Kansas City, and H. M. Stone, assistant engineer, resident engineer at St. Joseph, the entire project being under the general supervision of E. E. Adams, consulting engineer of the Union Pacific System, New York City. The new substructure was built by the Missouri Valley Bridge & Iron Company, of Leavenworth, Kan., and the fabrication and erection of the steel work was handled by the American Bridge Company, which conducted the movement of the three spans described above.

Letters from Overseas*

"OUR WORK ON THE LIGHT RAILWAYS," writes a lieutenant in the Fourteenth Engineers, "is becoming more fascinating as we get deeper into it. The volume of traffic is constantly increasing, and at the present time we are able to handle little but ammunition and supplies. Car shortage seems to be our chief difficulty.

"The power situation is fairly good. On account of the high cost of gasoline (petrol they call it here) we use our steam locomotives wherever our location will permit. Our engines are small, of the 2-4-0 type, and on ordinary grades will handle 10 to 12 cars. They are equipped with brass flues, but on account of shallow fireboxes require constant rolling. The water is very bad, which necessitates washing the boilers about once in six days. Some of our boys had quite a time getting accustomed to the old straight steam brake, with which our engines are equipped, after having used the Westinghouse in the States, but fortunately we have escaped without serious accident.

"In places our track runs up to within 500 yards of the German front line trenches, and it is quite a ticklish job to take a train up there at night without lights, get it unloaded and get away again without being detected. As soon as the enemy discover a train they begin to drop shells, or pepper them with machine-gun fire. One night recently one of our men had the track blown out in front of him; he started to back up and another one landed just back of him and there he was marooned. He jumped into a shell hole and waited until things had quieted down, then crawled out, went to the nearest control station, got out the trackmen, fixed up the track and got away safely. Another night one of our men stopped his tractor and stepped down into a dugout to get some water; while he was gone a shell landed, and when he came out his tractor was scrap. However, such occurrences are the exception and not the rule.

"Our men are standing up bravely under such conditions; not a whimper or complaint. At first they were a bit timid when entering the danger zone, but when they once got into the work that quickly disappeared. We are connected very closely with the British troops and Light Railways and are constantly rubbing elbows with the Canadians. They are a fine bunch of fellows and good railroad men. I am surprised to find so many C. P. R. men over here; they seem to have responded very generously to the call.

"We have considerable trouble with the 'tanks' crossing our tracks at the most unexpected places, and you can imagine what it does to our track. One night recently one of our troop trains struck a tank which was crossing the track without lights. The train came to a dead stop, the impact throwing the engineer and fireman out on the ground, slightly stunning them. The 'tank,' however, did not stop, but continued on its way, and as soon as it cleared the track, up

starts the engine, breaking away with one car, and before any one realized what had happened was running wild down the hill. After running wild for a couple of miles she turned over in the ditch. Fortunately no one was seriously injured. The 'tanks' certainly are wonderful machines. There is not much left of the barbed wire entanglements when they get through with them. So far the Germans have not made use of them.

"No doubt you have read more or less in the magazines of the development of the art of camouflage. It is truly marvelous what they have done along that line, and what they are able to conceal with a little paint and fixings. The other day I was walking along the track, little dreaming that there was a gun within sight, when a big 12-incher let go within 100 yards of me. Well, for a minute I thought that I had been shot, so great was my surprise. There was not a bush or tree in sight, yet so successfully was it concealed that one would never see it unless one knew it was there. Many of our cars are also painted all sorts of colors and designs; so as far as car decoration goes, Barnum & Bailey have nothing on us.

"When we first arrived in France we were given steel helmets and gas masks. The helmets we find useful as protection against shrapnel, but the gas masks we seldom have to use, although we must carry them, ready at a moment's notice. The gas warfare has proved a great disappointment to the Germans. While it is true that during the early part of the war the Allies' casualties were quite serious, they have invented a mask which is absolute protection against every known gas for an indefinite period, while the mask used by the Germans is protection only against certain kinds of gas, and good for only about two hours. Then, again, the Allies have greatly improved the methods of using gas, which the Germans find it hard to combat. This, together with the fact that the prevailing wind is toward the German lines, has made them deeply regret that they ever started the gas game. Curiously enough, one of the most effective gases is in reality quite harmless. It is known as 'weeping gas.' Its only effect is to get into the eyes and make the tears run so freely as to make it absolutely impossible to see. The smallest quantity is highly effective, but as soon as the gas is removed its effect soon passes off.

"We have an opportunity to see a good many of the prisoners within an hour or two after being taken, and it is not uncommon for them to be quite overcome at the sight of American troops. Many of them tell us they had no idea that the United States had entered the war, and still less that we had troops here.

"Before leaving the States, if I recall correctly, we used to hear rumors of the Allied armies starving, etc. I don't know whether food is getting scarce in the States or not, but I do know that we are getting plenty of good wholesome food here, and so far as I have been able to observe I have seen nothing which approaches a shortage of food supply. It is true that the governments have put certain restrictions on food, but that is but a wise policy of conservation. At any rate, at the present rate of supply we shall be a long, long time starving or, in fact, losing very much flesh. This is true, not only of the American Army, but of all the Allies. Back of the 'Boche' lines, however, we have reason to believe that the situation is different."

CANADIAN PACIFIC RAILROAD STOCK is now held by over 50,000 persons, chiefly in Great Britain, Canada and the United States, approximately 12 per cent of it being held in other countries. The holdings in Canada have increased considerably since the beginning of the war, and now represent over 15 per cent of the outstanding capital stock, distributed among 7,000 holders. In the last four years, the number of shareholders has more than doubled.

*The *Railway Age* expects to publish regularly letters from railwaymen overseas. If you receive a good letter from a railwayman who is now in France, send it in for publication and let the *Railway Age* pass it around for all to enjoy.

Some of the Members of Director General McAdoo's Staff



Walker D. Hines



W. S. Carter



C. R. Gray



Edward Chambers



C. A. Prouty



H. P. Anewalt



John Skelton Williams



W. C. Kendall



Frank McManamy

Organization of the Railroad Administration

Divisions of Transportation, Traffic, Finance and Purchases, Labor and Public Service and Accounting

WASHINGTON, D. C.

DIRECTOR GENERAL OF RAILROADS WILLIAM G. MCADOO announced the organization of his railroad staff on February 6. Up to that time he had been assisted by a temporary staff of advisers, most of whom have been retained in the permanent organization. The names of the staff members with the departments over which they are to have jurisdiction and some of their assistants were published in the *Railway Age* of February 1, page 256, but the news of the formal announcement was delayed in transmission from Washington to New York and was not included in last week's issue.

The organization is as follows: Assistant to the Director General, Walker D. Hines, chairman of the executive committee and general counsel of the Atchison, Topeka & Santa Fe.

General counsel, John Barton Payne.

Director, division of transportation, Carl R. Gray, president, Western Maryland.

Director, Division of Traffic, Edward Chambers, vice-president, Atchison, Topeka & Santa Fe.

Director, Division of Finance and Purchases, John Skelton Williams.

Director, Division of Labor, W. S. Carter, president, Brotherhood of Locomotive Firemen and Enginemen.

Director, Division of Public Service and Accounting, Charles A. Prouty, director Bureau of Valuation, Interstate Commerce Commission.

Additional divisions will be created from time to time as conditions may justify. The Director General has in contemplation a division on capital expenditures and improvements.

Frank McManamy, chief inspector of locomotive boilers of the Interstate Commerce Commission, has been appointed manager of the locomotive section and is attached to the division of transportation. He will also continue in his present office.

Mr. Hines has been acting as assistant to the Director General since the temporary staff was appointed on December 31. Mr. Hines was born February 2, 1870, at Russellville, Ky. He graduated from Ogden College in 1888 and from the University of Virginia in 1893 with the degree of LL.B. He entered railway service in 1893 as assistant attorney of the Louisville & Nashville. From 1897 to 1901 he was assistant chief attorney of the same road, and from 1900 to 1904 first vice-president. From 1904 to 1906 he was a member of the law firm of Humphrey, Hines & Humphrey at Louisville, and in 1907 he became a member of the law firm of Cravath, Henderson & De Gersdorff. In 1906 he was appointed general counsel of the Atchison, Topeka & Santa Fe and in 1908 chairman of the executive committee of the same road. He represented his road before the Interstate Commerce Commission in the 5 per cent rate case, and the anthracite carriers in the commission's investigation into anthracite coal rates; and in the New Haven investigation appeared before the commission on behalf of the stockholders of the New York, New Haven & Hartford. He has also represented the express companies and he summed up the case for the railroads in the argument before the Supreme Court on the Adamson eight-hour law.

A photograph and sketch of John Barton Payne were published in the issue of February 1.

Carl R. Gray has been acting in charge of transportation matters for some time, succeeding Hale Holden, president of

the Chicago, Burlington & Quincy, who was temporarily appointed at the time of the resignation of the Railroads' War Board. Mr. Gray has been president of the Western Maryland for the last four years. He was born September 28, 1867, was educated at the Arkansas Industrial University and entered railway service in 1882 as telegraph operator for the St. Louis & San Francisco, after which he was consecutively agent, clerk in the traffic department, commercial agent, division freight agent, division superintendent, superintendent of transportation, general manager, second vice-president and general manager, second vice-president and senior vice-president. On May 1, 1911, he became president of the Spokane, Portland & Seattle, and on May 15, 1912, president of the Great Northern. In March, 1914, he was elected president of the Western Maryland.

Mr. Chambers was also appointed a member of Mr. McAdoo's temporary staff. He has been in Washington since last summer, when he was appointed director of transportation of the Food Administration. He was born February 16, 1859, at Waukegan, Ill., and was educated in the public schools. He entered railway service in 1878 as freight handler for the Atchison, Topeka & Santa Fe at Pueblo, Colo., with which road he has been connected ever since as check clerk, transfer foreman and cashier, agent, commercial agent, assistant general freight agent, general freight agent lines west of Albuquerque, assistant freight traffic manager of the coast lines, and vice-president.

John Skelton Williams, comptroller of the currency and ex-officio a member of the Federal Reserve Board, has had considerable experience both in railroad operation and in finance, as a member of the banking house of John L. Williams & Co., of Richmond, Va. He was born July 6, 1865, in Powhatan County, Va., and was educated at the University of Virginia. In 1895 he became president of the Georgia & Alabama Railway and later with his associates purchased a controlling interest in the roads comprising the old Seaboard Air Line System, of which he was president from 1899 to 1903. He was later president of the Florida Central & Peninsular System and later chairman of the board of directors and the executive committee of the Seaboard Air Line System. He was also president of the Georgia & Florida Railway.

W. S. Carter, president of the Brotherhood of Locomotive Firemen & Enginemen, has been granted a leave of absence by his organization to enable him to take charge of the division of labor and will represent all railroad labor, both organized and unorganized.

C. A. Prouty in his new position will continue as director of the Bureau of Valuation and will have charge of questions raised by any portion of the public as to the adequacy of the service rendered shippers and consignees and as to the safety of railroad operation. He will supervise the inventories of the railroad properties of which the government has possession and control, together with receipts and expenditures in connection with their operation. He will, therefore, represent the interests of farmers, manufacturers, producers and consumers generally.

Mr. McManamy has had experience as a locomotive fireman and engineman and was for a time manager of the western district for the air brake department of the International Correspondence Schools. He entered the service of the Interstate Commerce Commission about 10 years ago as inspector of safety appliances. In March, 1911, he was ap-

pointed assistant chief inspector and in the fall of 1913 he was appointed chief inspector of locomotive boilers.

The manager of the locomotive section will supervise the condition of, and repairs to, locomotives at all railway shops and roundhouses and at outside shops, in addition to his present duties for the Interstate Commerce Commission as its Chief Inspector of Locomotives.

Henry Walters, chairman of the Atlantic Coast Line and of the Louisville & Nashville, who was appointed as a member of Mr. McAdoo's temporary staff, will continue to act in an advisory capacity.

W. T. Tyler, assistant to the vice-president of the Northern Pacific, and H. T. Bentley, superintendent of motive power and machinery of the Chicago North Western, are acting temporarily as assistants to Mr. Gray in the transportation division. The Commission on Car Service and the Bureau of Car Service of the Interstate Commerce Commission have been merged and are attached to the transportation division.

Mr. Chambers also has a staff of assistants, most of whom were mentioned in last week's issue. C. B. Buxton, recently assistant director of transportation of the Food Administration, formerly general agent of the Atchison, Topeka & Santa Fe at Philadelphia and later vice-president of H. L. Edwards & Co., cotton merchants, of Dallas, Tex., is Mr. Chambers' personal assistant. R. C. Wright, general traffic manager of the Pennsylvania, is assistant in charge of freight matters. Gerrit Fort, passenger traffic manager of the Union Pacific System, is in charge of passenger matters. G. W. Kirtley, formerly general superintendent of transportation of the Erie and recently assistant to Priority Director R. S. Lovett, is in charge of matters pertaining to preferential service.

Car Service Section Organized

For the handling of car service and other matters formerly in charge of the Commission on Car Service of the American Railway Association, the Car Service Section of the Division of Transportation has been created. W. C. Kendall was appointed manager of the Car Service Section and W. L. Barnes, E. H. DeGrott, Jr., A. G. Gutheim, C. B. Phelps, G. F. Richardson and J. A. Somerville were appointed assistant managers.

The Car Service Section, according to the circular:

(a) Will have charge of all matters pertaining to car service, including the re-location of freight cars.

(b) Will provide through the regional director, on application of proper governmental authorities, for preference in car supply and movement, where more than 10 cars are involved.

(c) Will receive from railroads such reports, periodical or special, as it may require in order to keep fully informed with respect to the car service, the embargo or transportation conditions.

(d) Must be promptly informed of all embargoes placed, modified or removed, and will, from time to time, recommend such embargo policies and exemptions as the needs of the government, seasonal requirements, or other circumstances may demand.

(e) Will deal directly with railroads with respect to matters within its jurisdiction, and will keep the regional directors properly advised.

W. C. Kendall, superintendent of transportation of the Boston & Maine, has been a member of the Commission on Car Service since its organization. He was born on May 22, 1877, at Pompanoosuc, Vt., and graduated from St. Johnsbury (Vt.) Academy in 1895, and from Dartmouth college in 1899. His first regular railway position was on the Boston & Maine as telegrapher at Boston, Mass., in August, 1899. He subsequently served as clerk to various officers and since March 1, 1912, has been superintendent of transportation of the same road. C. M. Sheaffer, general superintendent of transportation of the Pennsylvania Railroad, who was chairman of the Commission on Car Service, has been recalled by his road. The new section is a merger of the Commission on Car Service and of the Bureau of Car Service of the Interstate Commerce Commission, consisting of Mr. De Groot and Mr. Gutheim. Mr. Barnes, Mr. Richardson and Mr. Somerville were members of the Commission on Car Service. D. E. Spangler, superintendent of transportation of the Norfolk & Western, has resigned on account of ill-health. Mr. Phelps is superintendent of transportation of the Louisville & Nashville.

In addition to appointments previously mentioned in the government departments, the Army, Shipping Board and Food and Fuel Administrations, H. P. Anewalt, general freight agent of the Atchison, Topeka & Santa Fe, Coast Lines, has been appointed director of inland transportation of the Navy Department.



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British Engineers Reconstructing a Bridge in Flanders

My Forty Years' Selling Experience in Europe

No Properly Equipped American Firm Ever Lost Money
in Europe—Peace Will Open Big Markets There

By Hugh Reid Griffin

THIS ARTICLE is written from the point of view of an American traveling salesman who has been studying the European field for the past 40 years, who has sold many classes of iron and steel products, who can say he has been fairly successful in dealing with men of every nation in Europe, and who now, while still in Europe, has retired from active business, though he still loves business for the fun there is in it. I hope that I may be able to give a few pointers not only to firms expecting to do business in Europe but also to the representatives they send abroad.

To the firm I would say: Prepare now for the business coming with peace. You may have to do a credit business, often, but you will make money in the end. Andrew Carnegie got his first big start by being prepared to do business, by being ready. He foresaw the need of steel railroad bridges. He didn't go around and try to convince railroads that they were going to need these bridges. He first had a lot of bridge parts made up, then he went to the railroads needing those particular bridges and said: "You've got to have a bridge at such and such a point. It will cost you so much. The bridge is ready to deliver. I know you had to have it, so here it is." Some people would call that luck. I call it being prepared.

To the firm I would also say: Get your young men in the field now. Let them be studying it, learning the language and the ways of the country you want them to do business in. Be sure they are Americans who know your product; who can show all of its good points, for by so knowing a salesman is able to convince a prospective customer and sell in big lots instead of in small parcels, as your foreign agent would probably do.

To the representative I would say: Business is the greatest sport in the world, because every day there's something doing, something new, some new twist in the game to be worked out. A lot of people think you don't have to have much sense to sell goods. It's a colossal mistake. Business is no place for a fool, and foreign business least of all.

Study Your Customer Closely

In doing business in Europe, you have got to study your customer closely. He may take plenty of time to do business, to get started in buying from you, but once you get his confidence you hold him. It is commonly said that you can't drive an English customer away, after he gets used to you.

I think one of the big points of doing business anywhere is to waste all the time you can spare in landing your man, but once you have landed him, and have gotten his signature to a contract, take the first train out of town. No matter whether it is going north, east, south or west, board it. Else your man may change his mind.

The American habit of buying many drinks, of giving big dinners, is often looked on suspiciously over here, and little things like that may ruin a good deal. I remember once in Dusseldorf, Germany, many years ago, in talking with the head of a big firm of steel product buyers, the man told me about an American salesman who came to town and at once gave a banquet to him and his friends, something gorgeous in the way of a banquet. "The next day the salesman came around to sell, and I cut his prices way down," related the man, "because I figured that a firm able to throw money away on banquets must be making big profits and could sell

much cheaper than quoted prices." The foreigner rarely invites anybody to dinner except as a matter of personal liking, of friendship, and then he doesn't splurge. It's just a quiet affair. So he very naturally looks with suspicion on a costly dinner. "Why is this fellow giving me this dinner?" the foreigner asks. "It must be to get something out of me." And before he gets done thinking about it, he concludes that there must be something wrong with the goods.

We must accept good naturedly the peculiarities of people whose ways are not our ways, and try to use our wits to accomplish our end just the same. Many, many years ago I was selling harvesting machinery in Germany. I heard of a prospect in a Polish city. I went there, met a lot of the well-to-do business men of the place, and suggested they should form a subsidiary company for selling machines locally. In this case, they, not I, invited me to a dinner. The thing lasted all night. We told stories, for seven or eight hours straight, as I happen to know German, as well as French—the two languages, which together with English, will carry you around the world.

About daybreak I said to the party: "Look here, gentlemen, I am getting sleepy. If we are going to do any business, let's do it." Well, within a few minutes each of the men subscribed the amount of money necessary to form the total sum to buy up a hundred machines or so.

I went on back to Berlin, finally to Paris, and there I got a wire from the head man of the agreement to come to see him, that there was trouble. When I reached him, he said: "The machines are here all right, but there's a strike among the farm laborers. They won't let us use the machinery, and the farmer buyers are being scared off."

"Oh, is that all?" I said. "Let's go out to that strike. When we got there I made a bee line for the village priest and to him I handed a comfortable sum of roubles for charity. Then I brought up the subject of the machines and the strike. He was an intelligent man, saw the need of the machines, and before the day was over he had gone out, arranged a ceremony, and blessed the machines in the presence of the strikers. So the strike was off.

Changes Brought by the War

My memories of such things run a long ways back; 40 years is four decades—the life of the average man. I began business just after another big war, when Europe was settling down and rapidly developing after the death struggle of 1870-71 between France and Germany, and Germany with a fat indemnity of five milliards of francs—spot cash practically, or short time credit at most. The year 1873 was the year of the great Vienna exposition, and while the United States did not make a large exhibit there, it showed champagne from California, harvesting machinery from the Eastern states, and various other products of American ingenuity. Think, just think, no one has ever heard over here of a large order of California champagne. On the other hand, European crops have been harvested ever since that exposition with increasing numbers of American mowers, reapers and binders.

Consider the champagne and the harvesters. There's a lesson in them. They go to show that you can drink yourself drunk and talk your head off without result, if you offer what is not wanted, while the needed or practical article meets

with a large demand. It was so after 1873 and will be so after the unknown date when this terrible war ends.

To judge what is needed requires familiarity with conditions and a willingness to meet these conditions. No one branch of American manufacture has been pushed as has the harvesting machinery, and in this branch mowers and simple reapers were followed by sheaf binders and, notwithstanding the attempts to copy the models or original devices on the ground, America has so far had the trade and will continue to have it. This success in a special line should stimulate men in other lines.

There is one point we as a nation must consider before that of any foreign trade at all. Since 1865 the United States has never had a commercial marine of any importance on the high seas. England and then Germany have done the carrying. France has had a share but the United States has sat tight and let the other nations carry our products. This condition cannot and will not continue. The world is open to us as never before; it is our great chance to develop further our transportation business which at present, the best in the world on land, stops short at the water's edge. It is not often so considered, but foreign transportation is an industry and a paying one just as much as selling shoes in a foreign land. Hand in hand with the pushing of our manufactures in foreign lands should we push the transportation.

The Possible Markets

England is the easiest market to tackle for us because the language is our own; but the future is not confined to English trade.

Germany had a population of seventy millions, possibly ten millions of which has been killed or disabled. Yet these sixty millions left after the war will be just so many millions of resourceful, needy, obstinate, systematic organizers. In time, Germany, hated and despised now, will, like the Hebrews, blossom and flower into something better than war, murder and depravity. Too much has been made, however, of the bad side of the German character. I have done business with Germans all my life, and I have found them, while exacting in their contracts, always honest to a penny, and therefore excellent people to do business with. They succeeded in business because of remarkable virtues, because they asked, "What do you want?" and then gave it to you. These people must and will live, and perhaps we as a nation will be the ones to help them most in the future, and Germany may become one of our best markets.

France is rich and will not be poor when the war is over. Possibly because of their Republican institutions and the consequent manner of thinking, they are the more nearly like the Americans in character of all the peoples of Europe. Anybody can agree and get along with a Frenchman, and best of all ourselves. They are a people of many qualities which it took this war and their sacrifices in it to understand. For one thing, a Frenchman of business standing will never, *never*, make a contract which he does not expect to keep, nor which he does not clearly see his way to keep.

Russia is a second United States, as far as self-supporting problems affect her. She is weak on many manufactures but has material and will develop.

Austria-Hungary, Roumania, Turkey, even the Balkans, will be big buyers after the war.

Financial conditions should be studied by our best men, just as France, Belgium and England have men busy with all these problems now, getting ready to meet conditions after peace. Naturally, unlimited credit cannot be given. Guarantees will be required, but much that we can supply will provide the means of paying for such supplies. Already an international trade clearing house is being devised, something after the manner in which Morgan, Harjes & Co. acted as agents for England and France in the United States. In this way the manufacturer, the seller, is relieved of the long

individual credit bother. His bank at home provides the credit for him to carry the foreign customer. Also, we need an all-American bank in every big city in Europe.

Among the big articles that will sell—and everything will sell—is steel of all kinds, cement, wood furnishings, windows, doors, floorings, fittings of all kinds, bridges, rails and structural steel. These and hundreds of other items can be sold without too great risk in Europe. The sooner the study of the market begins the better. There is no human probability of a general resumption of industrial output in Europe sufficient for the needs until long after the war. Therefore iron, steel, coal, wood, cotton, food supplies, and a thousand other products we can deliver will find a market.

Cultivating the Market

To cultivate this field and prepare for what common horse-sense tells one must result in the way of demand, the markets should be studied. I cannot repeat this too often. Forty to forty-five years ago it was far less easy to introduce our manufactures, and prejudices were a hundred times harder to overcome. Communications of all kinds were slower and not available.

Once the head of a firm or some one in whom he has confidence has mapped out market prospects, the next step is to get a man in the field. The mere placing of agencies in local districts is not enough. Customers must be seen personally by the American representative.

The art of selling is natural or acquired, though most generally it is born in a man. Let me repeat, the salesman must have an absolute knowledge of his wares, of their good points, and after this he should study closely all the possibilities of his given field. For one thing, he should always be willing to help any firm he comes in contact with whether he can do any immediate business with it, or for it, or not. I have all my life made it a rule to help business people, give them any special information I possessed, whether the firm was American or foreign. Frequently I have seen a business possibility and dropped a line to some firm I knew suggesting that it follow it up, though there was no immediate interest in the affair for myself. This sort of thing pays. Firms remember such favors and when they have something they can throw your way they do it gladly.

The second great requisite for the foreign representative of an American firm, after that of knowing his wares, is that of knowing well his own language and country and then the language and country where he must do business.

These qualifications involve a general store of information which often leads to good business. It makes the salesman able to interest the man he meets in a business way. Selling introduces the personal equation. If a man likes you, is interested in you, he becomes interested in what you have got to sell. Big sales sometimes turn on little points. A buyer has his peculiarities and in passing large contracts he may haggle over minor points that the seller cannot well modify, and in such cases you've got to use your personality, tell the man a funny story, get his attention off his hobby, and close your deal while he is in a good humor.

It is very important never to let your buyer quarrel with you over national prejudices. He may begin by abusing the United States, telling you that its business men never make prompt deliveries, relate how unsatisfactory such and such an arrangement proved as in the case of a friend of his. When he begins to abuse your country, don't get mad about it. Let the steam blow off. Praise his own country, tell him how many of his countrymen have succeeded in the United States, try to think up specific cases, and then lead your man up to the question: "Has he ever visited the United States?" "No," he will probably say. Then tell him he should do so, how we welcome visitors, explain to him some of its good points; don't brag about it too much, because that offends him, makes his own country seem small and insignificant;

but tell him that while it has its good points, many of them were borrowed from the old world, probably from his own country. People in Europe are extremely sensitive about questions of nationality. The English have an air of indifference, of coldness, of superiority about them which offends others, though they really do not mean to be so, being honest and square people in business. The French and the Italians have never liked each other too much, it is said, despite many common interests, because the French, being wealthier and more powerful, have often used, in politics, high-handed methods with the Italians, or at least, so the Italians think.

If you find that you are unable to interest foreigners in our country, then clear out and go home and don't come back until you have really learned to talk intelligently about it.

Be ready to learn new points about the country you are in and if some local interest is brought up, follow it and show your interest in it. We are never too old to learn and every man who has talent, position, or ability, whom you meet, if he sizes you up favorably, is willing to help you.

I remember once, in England, that I had a shipment of machinery due in London and this machinery was not labelled or marked according to some new customs rule that had been made after I had ordered it from home. I went down to see the head of the Board of Trade, a gentleman whom I had never met and whom I didn't have time to get an introduction to, or write for an appointment; anyway, letters often involve matters and give the other fellow a chance of getting rid of you politely. So I went into his outer office and told the uniformed porter I wanted to see this man.

"Have you an appointment with him? Do you know him?" asked the porter. "Certainly," I said, "knowing I would never see my man if I appeared to be some stranger whose business was not understood. The porter took in my card, and the man's secretary came out. He did not recall the appointment, said the secretary. "Tell Mr. So-and-So it is absolutely necessary I see him at once on important business," I told the secretary. The secretary disappeared and came back with the word that I would be seen at once. After that, when I got to my man, I explained the case. "I'm sorry I've never met you," I told him, "but I've heard a great deal about your courtesy to American business men, and such-and-such is the case." Well, the man softened up and said while the case was unusual, he would give me a letter that would arrange the matter, he thought, with the customs.

On the question of time, the salesman must possess his soul in patience, whether it is a matter of hours or of years. Be punctual yourself in keeping appointments though your customer may keep you waiting often. Patience, whether Jobistic or Wilsonian, is sometimes a virtue and more frequently a necessity. Once you get into a man's office, you need not be so short and quick, afraid of taking up his time, as is the rule with business calls at home. First take a lot of time, if the man is new to you, making a good impression; mention your connections in the country if they are good and not unfriendly to the man you are calling on. Of course, don't forget the object of your visit. Business is business, and there is a moment when the hammer should fall on the nail and drive it home.

Don't be ashamed of being in business, as they used to be over here. The business of selling is the most interesting occupation in the world. If educated, it broadens and enlarges one's views, it rounds up and polishes and it is the greatest university the world possesses. It makes demands on every professional and artistic instinct a man possesses; after the busy struggle for dollars is over, and a man sums up his work, it leads him to charity and liberality in dispensing his money to help suffering or oppressed humanity.

World-wide business enterprise offers the greatest attraction, it is full of bold adventure, it takes men to the extremes of the earth, it maps out and records facts and furnishes data which no government bureau ever jots down.

Business Papers Advise Shippers

THE SERIOUSNESS of the transportation situation and the resultant threatened decrease of production to industries has caused the Associated Business Papers, Inc., to call for co-operation of the entire business and trade press of the country in urging special efforts on the part of the shippers. The executive committee of the Associated Business Papers, Inc., is sending out to the technical and trade papers the following report:

Your committee, appointed to consider the question of constructive, practical suggestions which can be made to the shippers in various lines of industry so that the traffic situation can be temporarily improved and later permanently benefited, has considered the matter and makes the following report:

To win this war we must do things. Do them quickly, with less labor and less waste. We must increase valuable activity and decrease wasteful activity. We are at present suffering from a decrease of activity all along the line. This decrease comes from the inadequacy of the distribution system. It is time for the producer of raw material, the manufacturer, the warehouseman, the jobber and the dealer to understand that distribution, the movement of materials from the point of production to the point of fabrication and the movement of goods from the point of fabrication to the point of consumption is the foundation of all industrial endeavor.

Neither the efficient control of government bodies, nor the wisdom of the railroad men can solve the whole problem. A large part of the difficulty is the local and short haul difficulty, resulting in congestion which extends back into the main arteries of transportation. It is time for the business man in all lines of endeavor to realize that he is not merely a buyer of transportation, at a price per mile or per ton, but that adequate transportation service is absolutely necessary to the profits of his business. At the present time the interest charges on goods in transit frequently amount to very much more than double the cost of the transportation, while the cost of waste, due to inability to secure materials and ship goods, runs into much larger figures.

For these reasons all men who secure their livelihood from the production of materials or goods and the sale of those products, should be interested in pushing for these items, which will enable us to build up an adequate transportation system.

The government has now assumed control of the railroads, and Director General McAdoo has surrounded himself with an able staff of practical and successful railroad operators. A National Highway Committee has been appointed with Roy D. Chapin, president of the Hudson Motor Car Company, as its head, and the Board of National Waterways Association is working with the official committee on this problem. Under these circumstances, and having in mind that we have not in our industries displayed any well organized efforts to aid in the solution of the traffic problem, it is our recommendation that the matter will be best served by our full co-operation with these governmental bodies. It is time to quit kicking about rules which are established in the endeavor to clean up the situation, and to co-operate in such a whole-hearted and intelligent way that the tangle of transportation difficulty may be more rapidly untied and the situation cleared in record time.

It is recommended for this reason that, generally speaking, the shipper should be urged to foster movements in the following directions:

For the Improvement of Railroad Service

1. The provision of adequate rules to secure the full efficiency of transportation service.
2. This includes establishing proper charges for freight

and demurrage and the enforcement of equitable rules of loading and unloading, shipping and packing.

For the Highways

1. The extension of paved highways.
2. Provision for keeping these highways open at all seasons.
3. Proper provision the maintenance of these highways.

For the Waterways

1. The construction of barges and small tow boats to provide for the adequate use of existing highways.
2. Provision for putting into shape existing waterways that have been allowed to become obsolete.
3. Provision for the wise extension of these waterways to correlate with the railroad system.

As a measure of relief from the present congestion, it is recommended that the shipper be advised that he can materially aid himself in the improvement of his own transportation conditions and the elimination of the excessive costs of not being able to do business, by carrying out the following suggestions:

In Connection with the Railroads

1. Co-operate and put it over. Do not kick at changes.
2. Load and unload promptly. Do not wait for a convenient season.
3. Load to capacity.
4. Do not reconsign en route. Decide the destination before the goods leave.
5. Pack securely and mark plainly.

In Connection with the Highways

1. Make a survey of all the incoming and outgoing freight handled within zones of 10, 25, 50 or 75 miles from your city.
2. Ship all goods to be delivered within the above zones over the road by motor trucks.
3. Demand that all goods to be shipped to merchants in your city and originating within the zones mentioned be delivered by motor trucks.
4. Make a census of all motor trucks in your town available for this work.
5. Take up with your local offices of the national express companies and your local haulage and express concerns as to how far they can extend their present delivery routes.
6. Select a committee of the best traffic managers of the concerns in your city to lay out a detailed plan to suit your own local conditions and determine upon the fair rates to be charged.
7. Arrange for a sufficient number of receiving platforms or warehouses where you can use horse wagons and motor trucks up to 3-ton capacity to deliver and set down goods, leaving for the larger trucks the running between the main points in the zones. Do not try to make the trucks running overland between the main points do pick-ups and deliveries. It cuts down their efficiency and makes the maintenance of schedules impossible.
8. Put some trucks in the overland haul work on definite leaving schedules so that goods can be delivered to the receiving platforms or warehouses in time to make up full loads to any given points.
9. Arrange a Return Loads Bureau. Arrange with the local telephone companies to give your regular telephone number to any inquirer calling up and asking for Return Loads Bureau. Post notices in the offices of all of your merchants that you have established a Return Loads Bureau. Post similar notices in conspicuous places in the smaller towns and cities through which trucks running to or from your city will have to pass. This will enable your trucks and those of private truck contractors doing this kind of

haulage and entering your city to quickly collect loads to be transported to their home cities.

10. Bring all pressure to bear upon your mayor and the governor and thence to your highway commissioners to keep all the main highways leading out of your city open during the remaining winter months.

11. Bring all pressure to bear on the proper authorities toward the resumption of the construction of main line highways at the earliest possible moment this spring and for a proper maintenance of the roads all year around.

In Connection with Waterways

1. Secure information upon transportation available on existing waterways covering short hauls.
2. Get behind the movement for immediate production of barges for the large canals, such as the Erie barge canal, which would relieve the freight situation between the lakes, coal regions and the important centers on the Atlantic seaboard.
3. Take up with the traffic manager of your business and the traffic expert of the local chamber of commerce the possibility of the use of waterways for any part of your freight movement and arrange shipping plans accordingly.

The New Army Storage and Traffic Division

SECRETARY OF WAR BAKER on February 10 announced a reorganization of the general staff of the army dividing its functions into five divisions, one of which is the storage and traffic division. Concerning this the announcement says:

"This division shall have cognizance and control of the transportation of all branches of the army and of all munitions and other supplies for the army, both by land and sea, and all storage facilities in connection therewith, under an officer designated as the Director of Storage and Traffic, who shall be an assistant to the Chief of Staff. The duties of this division shall include the following matters:

"(1) All movements of troops, as well as of munitions and of supplies of every kind, including raw materials, and finished products both during manufacture and after assembly, to points of embarkation, interior points, and oversea points, and in and out of all storage.

"(2) All inland traffic, embarkation service, and overseas service relating to the army program, including the employment of all army transports engaged in the transatlantic service, and such commercial shipping as may be used to supplement that service, including all arrangements with the Navy Department for convoy service.

"(3) All storage for munitions and all other supplies of the army on the seaboard and at interior points.

"Direct correspondence between the Director of Storage and Traffic and the commanding officers of ports of embarkation is authorized. Copies of all requisitions, requests, and information of every character received from the Commanding General of our forces in Europe, or his subordinates, which bear upon reinforcements or renewals of supplies, will be transmitted to the Director of Storage and Traffic, and, in general, this officer is charged with the duty of arranging that all supplies for our forces in Europe shall be forwarded in the most expeditious and convenient manner, and to that end he is authorized to exercise control of army shipment, both within the territory of the United States and as the same relates to the overseas haul.

"The embarkation service created under Section 3, G. O. 102, W. D., 1917, is hereby transferred to the Storage and Traffic Division."

The appointment of the director has not been announced.

The Great Northern Elects a New President

A Man Who Believes in Personal Relations with Patrons
and in Taking Pains to Accommodate Them

THE INCREASED importance attached to the maintenance of satisfactory relations with the public makes it desirable to have an executive at the head of a railway who is capable of pursuing a policy which is both understood and approved of in the territory served. No railroad officer has an opportunity to become more adept in reading the public mind and in satisfying the wants and whims of railroad patrons than the experienced traffic man. This type of officer was elevated to the position of chief executive when James E. Gorman was elected president of the Chicago, Rock Island & Pacific, and that road's example was followed on February 12, when William P. Kenney was elected to succeed Louis W. Hill as president of the Great Northern.

Mr. Kenney, although not so well known in the East, has an extensive acquaintance in the Northwest and has a thorough knowledge of the resources and traffic possibilities of the states traversed by his road. "The public be served" has been his motto as the head of the traffic department of the Great Northern, and adherence to this principle has won for him and his company the increasing confidence and good will of shippers and passengers. Mr. Kenney is a believer in close personal relations with patrons and in painstaking efforts to accommodate them, rather than in wholesale methods of publicity. His election to the presidency has been jokingly ascribed to his consummate ability to tell humorous stories in the Swedish brogue. Although referred to in a spirit of jest, Mr. Kenney's wit and genial good humor have played no small part in winning for him a large personal following as well as countless friends for the Great Northern.

A close student of human nature, he is adept in handling the most delicate situations which may develop through misunderstanding or super-sensitiveness. Like others of Celtic stock Mr. Kenney is a born fighter and keen to match his strength with others in the same vocation. In securing competitive business for his line he has been particularly successful. In inculcating a keen business sense in his subordinates he has shown the qualities of a natural leader.

Perhaps the highest compliment which can be paid to Mr. Kenney is that he was a protege of James J. Hill. Under the direction of the great "empire builder" and later of Louis W. Hill, he continued the development work for which the Great Northern long has been noted. He has helped induce immigration to Montana and other western states and has supervised his company's extensive program of practical and educational assistance to the farmer. He has likewise aided

in bringing the attractions of Glacier National Park and other points of interest to the attention of prospective travelers. In fact, his familiarity with this kind of work probably constitutes one of the reasons why he has been selected to direct the policies of a road serving a country still rich in its possibilities for further development.

Mr. Kenney's election as president of the Great Northern as well as Ralph Budd's election as vice-president, illustrates the policy of the Hill lines to give positions of responsibility

to comparatively young men. The former has not yet reached the half-century mark and the latter is barely over 40 years of age. Although Mr. Kenney's career is marked by his rapid rise to high position, it has not been spectacular. His has rather been the steady progress of the persevering, industrious and efficient officer who advances from post to post through sheer merit and remains relatively unnoticed until he surprises his associates by reaching the top.

It is difficult to say when Mr. Kenney left school to enter business life. As a matter of fact, he sold newspapers in the streets of Minneapolis and delivered messages for the Western Union Telegraph Company before he discontinued his schooling. His first railroad position was that of a telegraph operator on the Chicago Great Western from November, 1888, to September, 1889. He then entered traffic work as a clerk in the local freight

office of the same line in Minneapolis, and has been in the traffic department ever since. His connection with the Great Northern dates from September 15, 1902, when he became chief clerk in the general freight office.

Mr. Kenney was born at Watertown, Wis., January 10, 1870, and entered railway service November, 1888, as a telegraph operator on the Chicago Great Western. From 1889 to September 1, 1890, he was consecutively yard clerk and clerk in the local freight office at Minneapolis, following which he was clerk and stenographer to the general agent in the same city until May, 1892. For seven years he was contracting agent of the Great Western, and in 1899 was contracting agent for the Empire Line. He then entered the general freight office of the St. Paul & Duluth, later assimilated by the Northern Pacific, as chief clerk, remaining there until September 15, 1902, when he took a similar position with the Great Northern. On April 1, 1903, he was appointed assistant general freight agent and in January, 1905, became assistant to the fourth vice-president. From May, 1908, to September, 1911, he was assistant traffic manager and during the following year was general traffic manager. Since October, 1912, he has been vice-president in charge of traffic.



W. P. Kenney

Hearings Before the Railroad Wage Commission

Firemen and Hostlers Ask Ten Per Cent Increase with Minimum of \$3.50 Per Day. Other Witnesses

WASHINGTON, D. C.

THE Brotherhood of Locomotive Firemen and Engineers, representing engineers, firemen and hostlers, on Monday and Tuesday of this week presented to the Railroad Wage Commission the requests for increased wages which it had not got around to presenting to the railroads when the government took over the roads.

The request of the firemen's brotherhood may be generally described as for a 10 per cent increase in wages with a minimum of \$3.50 a day of eight hours or less, 100 miles or less, with time and one-half for overtime, calculated on the basis of eight hours or a speed basis of 12½ miles an hour. In passenger service the minimum is placed at \$3 per 100 miles for road service and \$3.50 a day on short turn-around runs not paid on a mileage basis. A minimum of \$3.75 a day is asked for hostlers running on the main track, as between the engine house and a station, and a minimum differential of 30 cents a day is asked for local freight service over through freight rates. It is also proposed that helpers in electric service shall receive the same rates as firemen in steam service.

Timothy Shea, acting president of the Brotherhood of Locomotive Firemen and Engineers, presented the case for his organization, representing 103,645 engineers, firemen and hostlers, in place of President W. S. Carter, who has been given a leave of absence because of his appointment as director of the Division of Labor on Mr. McAdoo's staff. He explained that Mr. Carter had charge of the case until his appointment, and he filed an elaborate brief prepared by Mr. Carter, and two exhibits dealing exhaustively with the wages and working conditions and the cost of living, including one entitled "Wages and the Law," by Hugh S. Hanna and W. Jett Lauck.

The proposals, he said, were drawn by a committee of 18, representing the three territorial associations of the brotherhood, in response to numerous complaints received from the members during 1917, and demands for a new wage movement because their standard of living was being depressed by the increased cost of living, and they were "made extremely modest" in the hope that if the railroads were disposed to give any relief they would grant them quickly. They were submitted to a referendum vote on December 22 and approved practically unanimously on January 21, after which they were presented to the director general and referred to the Wage Commission.

The wages of firemen and hostlers are abnormally low, Mr. Shea said, as compared with wages in other industries except where earnings are increased by excessive overtime or excessive mileage, and the work is "almost beyond human endurance." Because of the "conservatism of the organization" they have repeatedly accepted compromises and "lean awards" from boards of arbitration until "their conservatism has been capitalized by the railroads" and many of them are now paid less than unskilled laborers. In the west, Mr. Shea said, they received a 10 per cent increase in wages in 1910, but have not received any increase since, except in a few instances in the 1915 award, which, he said, would have reduced the pay of many employees if they had not been protected by the "saving clause." In the east they had received no increase since 1913. The eight-hour movement, according to Mr. Shea, had brought little relief, and he declared that the Goethals commission report was made up largely of forecasts of what the railroads believed would be the cost of the law rather than actual results.

"We hope that the government will now extend the relief so long denied by the railroads," he said. "These employees are performing a very important duty and the firemen and hostlers are the one class of railroad employees that are underpaid."

When Mr. Shea presented comparisons of wages paid to firemen, ranging from \$2.45 to \$4 for an eight-hour day, with wages in other industries, Chairman Lane of the commission asked why so many examples of wages paid in the San Francisco ship yards were included, such as sheet metal workers at \$6.60 a day, whereas in the case of bricklayers and structural iron workers the average of 30 and 32 cities, respectively, were taken. Mr. Shea said he had not compiled the table. Bricklayers' wages, according to the table, had increased from \$5.17 in 1911 to \$5.83 in 1917, while those of structural iron workers had increased from \$4.58 to \$5.62. The rate usually paid firemen, Mr. Shea said, was \$3.10 or \$3.20 because there is a preponderance of the classes of engines on which those rates are paid.

Chairman Lane asked which class of employment in the table of other industries was most nearly comparable with the work of the fireman, and whether the fact that a man has to serve an apprenticeship in the other employments constitutes a difference. The duties of a fireman are comparable with those of any skilled craft, Mr. Shea replied. Chairman Lane also asked what percentage of the members of the organization are married men and heads of families. Mr. Shea said the records of the brotherhood do not show that fact.

Mr. Shea asked particularly that any settlement be made specific enough to avoid any dispute as to its application to hostlers and he recounted at length his long controversies with the railroads that had refused to apply the awards of arbitration boards or other settlements to the hostlers. Some roads, to avoid paying the awarded scale, he said, have changed the classification of hostlers to roundhouse foremen or engine repairers and have kept the men on a 12-hour day.

He also dwelt at length on the request for time and one-half for overtime, saying that a punitive rate would be necessary to enforce an actual eight-hour day. The best way to prevent train delays, Mr. Shea asserted, would be to penalize overtime and give each locomotive only its "proper tonnage rating." He said the roads had sought to make the application of the eight-hour law as expensive as possible.

Chairman Lane suggested a plan of payment for firemen which would reward economical use of fuel. Any such plan, Mr. Shea said, would be opposed. It had been tried on some roads and had caused a great deal of discontent because it was impossible to measure accurately the amount of coal used by a fireman, and it led to dishonesty on the part of some employees. Railroads are not burning coal now, he said, but are using "real estate."

"That is an experience common to all of us in these days," said Chairman Lane, "but why cannot the brotherhood make itself very useful by devising some plan or system of education among its men to save a percentage of coal?"

The brotherhood publishes educational matter in its magazine, Mr. Shea said, but the bonus system would not work. The fireman does not want to shovel any more coal than he has to, but there should be more competent instructors to show him how to be economical.

Mr. Shea continued his testimony on Tuesday, making numerous objections to statements included in the report of

the eight-hour commission. He particularly objected to a table included in the report showing that firemen spend only a small part of their time in the physical labor of shoveling coal and he referred to an exhibit filed by the railroads in the western arbitration case, showing that in 1,556 trips an average of only one hour and 42 minutes, or 19 per cent, was actually spent in shoveling coal. Mr. Shea said that as firemen shovel from 15 to 20 tons going over a division, if they could handle that amount of coal in such a short time it would not be necessary to send steam shovels to France.

He also filed 11 exhibits which had been used by the brotherhoods in the western arbitration case in spite of the fact that the board in that case was not sufficiently impressed with the presentation made by the brotherhoods to give an award anything like what the men demanded. These exhibits gave statistics as to increased cost of meals and rooms and the increased cost of living, increased work and productive efficiency of the employees, the hazard of the occupation, etc., and he declared that the relief which the men had asked had not resulted from the eight-hour law so that the old statistics were still useful. He also attacked many of the conclusions reached by the Eight-Hour Commission as erroneous on the ground that they were based on the period before the law was actually made effective. Reverting to what he declared to be the practice of the railroads in avoiding increased payments to hostlers, Mr. Shea presented what he called "very sensational testimony" in the form of a report from an employee relating instances of accidents and damage to locomotives caused by using machinists and helpers, boiler-makers and their helpers, or inexperienced or low-paid employees in the place of hostlers. These instances, he said, were samples of conditions on other roads and he cited examples of delays in putting engines through the roundhouse as the result of employing inexperienced men at low wages.

There has also been startling increases in the number of violations of the hours of service law, he declared, and he cited reports from a road which for five years had shown a steady decrease in the number of instances of service over 16 hours, from 824 in 1913 to 89 in 1917, whereas he had received reports of 123 instances on the same road from January 2 to January 24.

"That is not an extraordinary situation at all," said Chairman Lane. "If I were running that railroad I would probably have had that amount of overtime. January was a very abnormal month and I would not put any confidence in figures of that kind."

Mr. Shea declared that the men are saying that railroad officers now feel at liberty to violate the law because they are in the hands of the government. Commissioner McChord said that was a very mistaken idea and probably arose from the fact that some railroads had asked for relief from the provisions of the law, but that he was approving prosecutions for violations of the law every day.

Mr. Shea also introduced an exhibit on the increased cost of living prepared by W. Jett Lauck and also a statement by a clothing dealer showing the large increase in the cost of overalls, gloves and other clothing. In order to be able to maintain their pre-war standard of living, Mr. Shea said, the men should receive an increase of at least 45 per cent.

Mr. Shea was to be followed by W. S. Stone, grand chief of the Brotherhood of Locomotive Enginemen.

Other Witnesses

S. E. Heberling, president of the Switchmen's Union, testified before the Railroad Wage Commission on February 8 regarding the demands presented last October by the union to the railroads with which it has contracts for a 50 per cent increase in wages and time and a half for overtime after eight hours. The practicability of establishing an eight-hour day during the war by punitive overtime was questioned by Chairman Lane.

"I sympathize with you as to the desirability of a standard eight-hour day," he said, "but when industries are short of men would it be more desirable to come to that ideal or to give an increase in pay without disturbing the hours?"

Mr. Heberling said the switchmen did not ask an arbitrary eight-hour day if overtime work was necessary, but wanted to keep the work day as near to eight hours as possible by imposing a penalty for overtime work.

"But would your men not be better satisfied with an increase in pay than with an enforced reduction of hours?" asked Chairman Lane.

"We want enough to make both ends meet," replied Mr. Heberling, "but do not want the principle of the eight hour day destroyed because of war conditions." Mr. Heberling said that the only limit to the hours of work now is the 16-hour law and that overwork is responsible for the extreme hazard of the switchman's occupation. He also asked consideration for unorganized employees.

C. L. Darling, of Spokane, Wash., A. S. Bimrose, of Portland, Ore., and J. C. Wessels, Ashland, Wis., appeared on behalf of train dispatchers on February 8 and asked for increases in pay for train dispatchers to \$235 a month, for chief dispatchers and \$215 for trick dispatchers, an eight-hour day, one day a week off or double time, two weeks' vacation with pay, and free transportation. They said that opportunities for promotion for dispatchers were being reduced because brotherhood men are given positions as trainmasters and assistant superintendents.

Thomas McNeill, representing car inspectors on the Pennsylvania contended that the inspectors should come under the provision of the eight-hour law because of their part in the operation of trains, but he said the railroad managements have refused to concede this. He also asked increases in wages.

Robert L. Mays, a dining car waiter, spoke for unorganized negro waiters and colored employees generally, asking that they be given the same pay as white employees in the same classes of work. He said the waiters received about \$25 a month for 16 to 18 hours work a day. He asked for an increase in wages, but said that they could not get along without tips unless the pay was increased to about \$100 a month.

The commission has received a large number of telegrams and letters from train dispatchers in all parts of the country challenging statements made by W. G. Lee and A. B. Garretson at the hearing last week in which the dispatchers were referred to as train "delayers" and the railroads were charged with "laying down" and deliberately trying to increase overtime both for the purpose of discrediting the eight-hour law and in an effort to make a failure of government control of the railroads. The dispatchers declared that they were in a position to know that railroad officers are striving with all their energy to expedite traffic, and they demanded either proof or a retraction of the charges. A telegram signed by dispatchers on the Union Pacific said, "We desire to rebuke and brand such statements as malicious falsehood." A letter received from George W. Greenert, a train dispatcher on the Chesapeake & Ohio, said:

"As a train dispatcher I wish to protest against the remarks made by Lee and Garretson before the wage commission as reported by the press today.

"I wonder if the gentlemen are woefully ignorant or deliberately distorting the truth when they intimate that railroads, from the president down to the train dispatchers (or train delayers as they flippantly call them) are laying down.

"They would have you believe that it is within the power of the managements—like Joshua of old—to command the sun to stand still until all the ice and snow of this winter of blizzards is melted and the sun-kissed flowers are waving to and fro by the balmy breezes as the trains pass by. But here they let you see the inside of the plot. The railroads refuse

to do what Joshua did—they are laying down, because they don't want the government to have the railroads.

"Seriously speaking, however, when we see railroad officers 'get on the job' at 5 o'clock in the morning and work steadily, earnestly, faithfully until 10, 11, or 12 o'clock at night and subject themselves to calls at any time during the night; when we see officers working like Trojans to move business through ice and sleet and snow blown head high by blizzards, 36 hours and even longer at a stretch without rest, it makes a man's blood boil with indignation to hear the remarks made to your honorable committee about them laying down.

"As to the train despatchers—their hours of work and days of work have not been lessened for 30 years. They are on duty continuously during their 8-hour trick and in touch with all trains and all conditions on their divisions of from 100 to 400 miles every minute they are on duty, ever ready to act instantly when necessary to issue orders or instructions for the safety of trains. I have seen them remain on duty from one to three hours in order to look after some important matter and to see that the relieving despatcher was properly posted—this after they were off duty.

"A despatcher takes pride and interest in his work (which is like a game of chess) to a degree that is beyond the calculation of dollars and cents. Every despatcher has 'sweated blood' on his trick many times and would have gladly traded places with some negro section hand—color, flat feet, and all—at these times.

"They do delay trains—and many a man and woman and child are alive today because of the delay. Many a train and engineman is alive and with his family today because the despatcher delayed them. A broken rail reported, a wash-out, a land slide will cause the despatcher to act instantly and delay trains. Two trains cannot meet on the same track without a collision—he may delay one of them at a siding with orders to meet another—he does it on purpose. The men delayed, if they are not big enough to see anything but their own train, will damn the despatchers, call them train delayers and make other light-headed remarks to the farmers along the line.

"I believe that as a whole the railroad train and engine employees, trackmen, despatchers, and in fact all employees are doing their utmost to make the director general's operation a success and to speed up war transportation to the limit.

"Just wait until we get a little warm weather and watch them roll. Wonderful things will be done in the transportation line the coming eight months. Let us all have a fair and square deal."

Warren S. Stone, grand chief of the Brotherhood of Locomotive Engineers, testified before the wage commission on Wednesday. He said his organization had decided not to enter the general wage movement; it did not desire to embarrass the government and he presented no formal demands, but said that the engineers should have an increase, to meet part of the increased cost of living, to a minimum of six dollars a day. He did not criticize the roads as much as the other brotherhood officers.

Mr. Stone also referred to Mr. Shea's testimony regarding increased violations of the sixteen-hour law, saying that the roads had been ordered by Regional Director A. H. Smith, with approval of Mr. McAdoo, to disregard the law as necessary to move traffic during the emergency; but after it had been taken up with Mr. McAdoo he had ordered the roads to observe the law.

THE GRAND TRUNK LITERARY AND SCIENTIFIC celebrated its 60th anniversary recently. It was organized by F. H. Trevithick, in 1857, when he was Locomotive Superintendent of the Grand Trunk, and led to the establishment of G. T. R. libraries at London, Stratford, Belleville and Lindsay, Ont., and Battle Creek, Mich.

The Financial Future of British Railways

THE FOLLOWING EXTRACT is from the January issue of the Railway Magazine of London, Eng. There recently appeared in the Financial Times an able article on the future prospects of British railways, by W. J. Stevens. After recapitulating the war terms arranged in 1914 between the railways and the government, familiar to most readers of the Railway Magazine, Mr. Stevens went on to show that the economies in railway working under government control result in financial benefit for the government and not the railways. Then he disposes of the misapprehension prevailing in some quarters that the government is making no provision for delayed repairs and renewals, which is the reverse to the truth. In fact, one important change wrought by the war in British railway finance is that the companies, instead of being large borrowers, are for the time being very large lenders, and will remain in that position until they are able to resume normal outlays on maintenance and renewals of their permanent way and rolling stock.

When all is said and done, however, says Mr. Stevens, the government has driven a very hard bargain with the railways, and the experience of the latter is in marked contrast to that of other industrial enterprises. A summary published in the Economist shows that nearly all branches of industrial enterprise increased their profits substantially during 1916 and 1917, and are earning much larger percentages than the modest 4 per cent earned on British railway capital. Many of these undertakings have also made and are making large bonus distributions on capital account. The dividends distributed on the ordinary stocks of our railways have not varied much since 1913, but are slightly below the pre-war level. What is more serious is that the income tax has been raised to 5 shillings in the pound, so that what the government seems to give with one hand it more than takes away with the other.

Many thousands of small investors interested in railway stocks are probably quite as much in need of war bonuses as the railway employees themselves, but they have not received them. On the contrary, their income is reduced, and over and above that reduction they are confronted with the increased income tax. That the railway shareholders as a body have not complained is the most wonderful testimony to their patriotism that I know of, but whether it is altogether wise for the government to treat the largest section of the investing public in so niggardly a fashion is another question, and, personally, I have no doubt that it reacts unfavorably on contributions to war loans, etc.

Why are our railways, who have rendered unrivaled services to the community during the war, treated on a different basis from all other industrial enterprises? What essential difference is there between the railway companies and shipping, for instance, that the shipping industry should have been allowed to earn enormous profits and the railways treated in such a cheeseparing fashion? It might be tolerable for the railway industry to submit to the existing arrangement, for which, after all, they have to thank their own directors, but it is high time that needless uncertainty as to the proprietors' future should be removed. They only ask for an assurance that after the government arrangement comes to an end they will be allowed to adjust their charges to the public in such a way to meet, in a reasonable manner, their increased burdens in the form of wages, bills, etc. To a large extent this new burden is already being met by fresh forms of economy, and which will, no doubt, be of a lasting character.

THE VALUE OF COAL AND COKE sent out of the United States since the beginning of 1900 exceeds \$1,000,000,000.



Pulling the Chicago Terminals Out of the Snow

What the Railroads Were Compelled to Do in Restoring
Traffic After the January Blizzards

THE MONTH OF January, 1918, will be recorded in railroad annals as a record breaker for snow trouble in Chicago and its environs, not only because of the depth of snow fall, the severity and frequency of the storms and the continuous cold weather, but also because of the complete tieup of traffic which followed the burial of the complex network of badly congested terminals in a deep bed of snow. The efforts made to overcome the blockade which was paralyzing industry and threatening a serious coal famine cost the railroads several millions of dollars and called forth herculean efforts on the parts of their officers and employees.

An account of the two severe storms occurring on January 5 and 11, respectively, and the details of the traffic interference which followed in their wake was given in the news columns of the *Railway Age* of January 18, page 182. The character of the conditions produced by the storms is illustrated in the photographs. While not suffering any worse in the aggregate than the other roads, the Illinois Central was subjected to some of the more spectacular conditions throughout the portion of its line exposed to the sweep of the winds off Lake Michigan. The eight main tracks of this railroad are bounded on the side away from the lake for a considerable distance by a high retaining wall and the snow which piled up against this wall, completely buried the two adjacent tracks and any equipment standing on them. On the other roads not subjected to such an open sweep of the storm the snow was more evenly distributed over all of the tracks.

A large part of Chicago's railway mileage is on elevated embankments and in places where these embankments are occupied by only a relatively small number of tracks the wind accompanying the storms swept away most of the snow, but in many cases main tracks on the elevation are flanked on one or both sides by yards of considerable width so that the conditions approximated those experienced where tracks are on the natural surface. In general the chief difficulty was with the many miles of yard tracks largely occupied by standing cars, the movement of which at the earliest possible

date was imperative to the welfare of not only the city but also the nation.

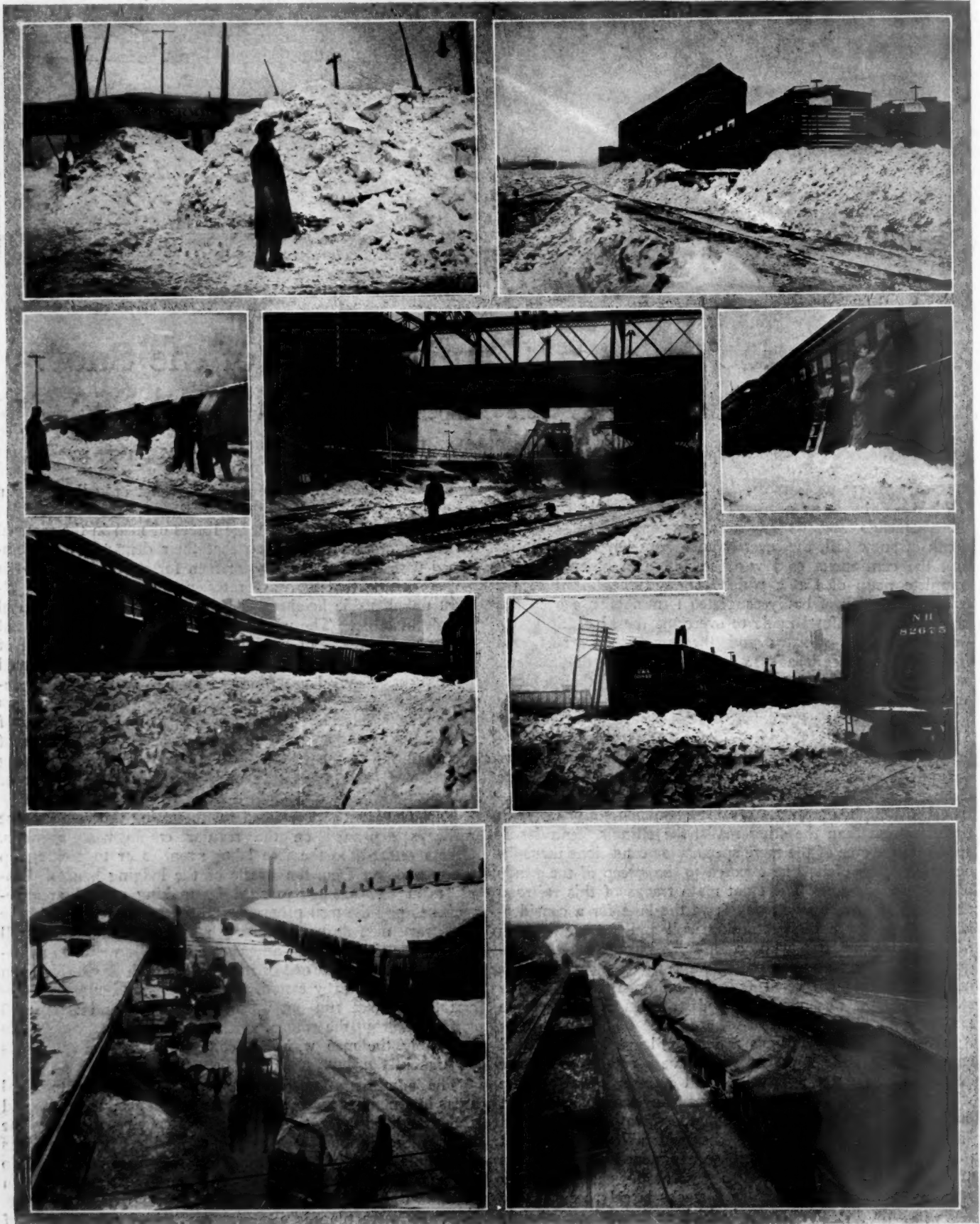
The railroads employed large forces of men in the removal of the snow and considering that their demands were combined with those of the city for men for street cleaning, it is not surprising that the wage rates in some cases attained almost unbelievable heights. There was, however, a plentiful supply of labor. The wholesale shutting down of industrial plants as the result of the blockade threw many men out of employment who were glad to shovel snow. Some industrial plants turned over large forces of men to the railroads temporarily, while the latter were enabled to recruit large forces from freight handlers, office clerks, draftsmen, etc., many of whom could not be employed at regular work on account of the stopping of the traffic. It is also found that lodging houses were accommodating an unusually large number of idle men who had come into the city for the winter.

Various plans were adopted for recruiting the forces. Some railways depended on the regular employment agencies. Others resorted to the free labor agencies or to picking up the men direct from the streets or the lodging houses. Employment was also encouraged by making special arrangements to pay the men promptly. Some of the roads paid the temporary men daily, a measure which introduced no small task in the time keeping and accounting. It was also necessary to feed the men one or more meals each day. The men were taken to nearby restaurants or boarding houses, or special trains were run out at intervals with sandwiches and coffee. During the colder weather arrangements were made to supply the men with hot coffee at frequent intervals throughout the day.

The administration of the work at the large terminal areas in a manner that would insure more effective results and a thorough co-ordination of the efforts being made by the various branches of the rapidly created organizations was no simple task. In this connection the Baltimore & Ohio Chicago Terminal developed a most interesting system. Men of known ability and who had previous experience in fighting snow were placed in charge of various subdivisions of

the terminals and made responsible for the progress within certain prescribed limits. In order that the officers of the road could be kept advised of the conditions at all parts of the terminals and the progress being made in restoring the tracks to operation, as well as give the necessary advice and

despatch men, materials and supplies where most needed, an intelligence bureau was established in the office of the district engineer. All of the telephones in the engineering office were assembled on a single large table where a staff of men was kept busy receiving and answering telephone calls,



Snow Conditions Around Chicago

while a record of the information given and received was kept on a quickly devised chart.

With a knowledge of the situation gained through this system the needs of the men in charge of the various parts of the terminal were fulfilled by different men detailed to look after certain requirements. Thus some men were commissioned to gather laborers, others to requisition or purchase tools, to provide lunches for the men, etc.

By far the largest portion of the snow was handled by shovels. Obstructions tended to preclude the use of power equipment in many places; consequently the snow was largely loaded by hand on cars of all classes—flat cars, gondolas, hoppers, box cars and stock cars—and hauled to a convenient point of disposal where they were unloaded by hand. In some cases coal cars were handled direct to mines in the southern or central part of the state where the snow was unloaded on mine spoil banks. One road used locomotive cranes with clam-shell buckets for unloading snow from cars, and while a large yardage was handled in this manner it represented only a relatively small proportion of the total amount of snow unloaded. The Chicago, Burlington & Quincy also made some use of a crane and clam shell bucket, assigned to coaling and cinder pit service, for excavating snow during intervals of the day when it could be spared from its regular work. On another road, boxes with a capacity of seven or eight cubic feet of snow with handles on the sides so that they could be carried by two men, were provided for use in this service where the snow could not be handled conveniently in larger quantities. In some cases wagons and motor trucks were used to haul snow from team yards and freight house grounds, dumping the snow into the river or the lake.

Snow plows were used where practicable, but the use was limited largely to main tracks. On the whole the supply of plows for such use as they could be put to was generally adequate.

One road, however, found it expedient to import a rotary snow plow from western heavy snow country to be used in clearing drifts in cuts, but its use was restricted principally to tracks at some distance from the city.

Of all the equipment available the ballast spreaders were the most effective. They were used in some cases with short wings to clear and flange a single track, but the most efficient results were obtained with the long wings with which an adjacent track was cleared, while the one occupied by the spreader was being flanged. By following this procedure progressively on track after track, it was possible to clear an entire yard of snow, although it was found advisable in some cases to block one track with snow plowed from a series of tracks on either side and later to clear this track by shoveling the snow onto cars. Whether the tracks were cleaned by hand or with spreaders the most difficult task was to remove cars that had occupied these tracks during the storm with the snow in many cases well up under the car bodies. These cars had to be pulled out in small cuts, using one or more engines for three or four cars, a process that frequently proved disastrous to the draft rigging.

Snow melters at the Chicago & North Western passenger terminal, installed at the time that this station was built, served in good stead during the recent storms. There are 10 of these installed near the end of the train shed and along the approach tracks. They consist of pits or boxes about 3 ft. by 6 ft. equipped with steam pipes and connected by drains with the city sewers. Shoveling snow into these boxes solved the problem of disposal with a minimum of interference with traffic.

As the work progressed and the tracks were restored to operation it was possible gradually to reduce the maintenance forces on the various railroads to more nearly the normal basis.

A New Scale Test Car

By A. Christopher,

Scale Inspector, Nashville, Chattanooga & St. Louis

THE NASHVILLE, CHATTANOOGA & ST. LOUIS has recently constructed a scale test car at its shops in Nashville, Tenn., the general design of which is shown in the photograph. The car is of iron and steel construction throughout. It has two four-wheel trucks of the standard 80,000 lbs. capacity type, with special heavy arch bars extending 27½ in. from the center of the extreme outside journal to the end of the car. The general dimensions are:

Length, 22 ft. 9½ in.; width, 8 ft. 4 in.; top of rail to top of runway, 6 ft. 4½ in.; extreme wheel base, 17 ft., and intermediate wheel base, 6 ft. Weight, 90,000 lb.

The main body of the car is built of heavy channel irons and I-beams with two cross members, built up with heavy angles divided between the transom plates. These plates are of ½-in. steel, 24-in. wide and 8 ft. 4 in. long. The plates are riveted to the longitudinal channels and I-beams. The center plates are of cast iron and weigh 403



The New Car Standing on a Scale

lb. each. Four 24-in., 100-lb. I-beams, 16 ft. long, form two separate compartments which will accommodate 1,100 secondary test weights of 50 lb. each. All joints in connection with the compartment are cemented and welded to prevent leaking. The car is designed with a view to reducing the area as much as possible so as to limit wind pressure.

The car is floored with ½-in. steel plates. The roof is composed of three pieces of ¾-in. steel formed so as to be freed quickly from the water which falls upon it and to provide a runway at the top. Two hand rails are attached for the convenience and safety of the trainmen passing over the car. The end plates are of 1-in. steel, cut to conform to the shape of the roof, and are heavily anchored to the ends of the 24-in. I-beams which form the secondary test weight compartment.

Twenty small jacks are provided in each end plate to hold the secondary test weights so that they will be held securely in place to prevent loss of weight owing to wearing away by shifting. There are two hoisting jacks on each end of the car with swinging straps to connect the jacks to the extending arch bars. By this means the four end wheels are raised to clear the rails. This places 90,000 lb. on the 6-ft. intermediate wheel base. It requires only 11 min. to connect the straps and raise the end wheels. The test weights referred to above are rectangular in form. They were sealed on an even balance master sealing scale with a capacity of 100 lb. in each pan and are sensible to within 1½ grains of their

is applied in line of the flue gases ahead of the front flue sheet. This breaker plate tends to break up the largest sparks before they strike the netting. The horizontal diaphragm table plate is perforated with 7/32-in. holes and the side sections are inclined, being attached to the sides of the smokebox. This type of diaphragm reduces the amount of resistance to the draft and adds to the self-cleaning characteristics of the front end. The horizontal table is made up of 1/8-in. material, being 26 in. square. It is perforated to permit of better entrainment of the gases without decreasing the size of the exhaust nozzle and rests on a flange at the top of the nozzle tip. The blower pipe is fitted into the exhaust nozzle below the table line.

The side table plates are inclined, as shown in the illustration, to prevent the collection of cinders. The fine particles fall to the bottom of these plates on top of the perforated horizontal table and are carried out of the stack by the exhaust. The plate around the steam pipes is so secured that it will not vibrate, opening up holes for sparks to pass through.

The joints in the netting are so made that no openings can occur to permit the passing of unduly large sparks. All nettings and plates are bolted at the side to a 2-in. angle iron, which is riveted to the smokebox.

The front netting and plates are arranged in separate

parts with ample support at their intersections, as shown in the illustration. The center plates may be easily removed when it is necessary to work on the flues, making it unnecessary to remove the entire front end netting or the table.

The spark breaker plate, located directly in front of the tube sheet and back of the front end netting, is secured to the flue sheet over the top row of flues under the T-pipe. It has 16 pressed steel openings 1 in. wide and pressed out 1/2 in. away from the plate for the full length of the plate. Its purpose is to break up the sparks, permitting only the finer particles to pass through the netting in front of it. The larger particles will travel to the front of the smokebox and in their passage be reduced sufficiently to pass through the netting.

The netting used with this device has an oblong opening 3/16 in. by 3/4 in. In the front end, shown in the drawing, the open area of the breaker plate is 462 sq. in. and the entire netting area has an opening of 1,607 sq. in.

Due to the large opening it will not be necessary to reduce the size of the nozzle to provide the proper draft. In this way it will provide greater economy in fuel.

This front end arrangement has reduced shop maintenance costs due to its self-cleaning qualities. It is simple in construction, strong and durable, and reduces the number of leaky joints in the netting commonly found on locomotives.

Duties and Responsibilities of Engineers and Firemen

Firemen's Work Particularly Laborious; Mechanical Improvements Lighten the Work of Both

THE REPORT OF the Eight-Hour Commission, of which General George W. Goethals was chairman, and which was reviewed in the *Railway Age*, February 1, 1918, has an appendix, No. 7, devoted to "Employment Conditions in Train and Yard Service Under the Eight-Hour Law." This was prepared by Victor S. Clark. That part relating to the duties of enginemen follows:

A road engineer's responsibilities and duties are less varied than those of a conductor, but they are more intensive and continuous. His preparatory work is merely to inspect his engine and to see that it is supplied with fuel, water, oil, and other necessities for the run; and his clerical work is limited to making out a time slip for himself and his fireman, and to reporting engine defects and failures. But from the time he takes the throttle at least six things constantly weigh upon his mind—his train orders, the automatic block and manual signals along the line, the track immediately in front, the water gauge, the steam gauge and the sound of his engine. Even a moment's inattentiveness to any of these things may mean delay or disaster. In time the constant observance of these essentials becomes almost automatic and subconscious; but the general testimony of engineers is that the sense of responsibility and of latent danger always remains. In bad weather, when soft tracks and possible washouts or slides are to be watched for, or when blizzards sweep the prairies, burying landmarks and blinding the outlook until only the jarring of the drivers on the frog tells the engineer that a station has been reached, the strain of this responsibility rises to a maximum even with the most experienced. Moreover, a careful engineer does more than run his locomotive according to orders and keep it in condition upon the road. When rounding curves he looks back for hot boxes, he senses in the movement of the slack the development of equipment defects in the cars behind, and in general he co-operates with the caboose crew to maintain the smooth, mechanical operation of the entire

train and is held equally responsible with the conductor for its safety.

Firemen Are Hard Worked

An engineer's physical labor, however, is much less arduous than that of a locomotive fireman. The latter is in this respect the hardest worked man in train service. His direct responsibility is comparatively light, though he must watch signals from the left side of the cab and must read and understand train orders. A very few large locomotives of recent construction have mechanical stokers, but they form an inappreciable fraction of the motive power in use on American railways. A considerably larger part of the engines running in the Southwest and on the Pacific coast burn oil fuel, and in such cases the physical labor of the fireman is comparatively light. In suburban and mountain service, especially where there are long tunnels, electric power—which is cleanest and easiest of all for the engine crew—is being introduced; but this change is still in its infancy. Therefore the typical fireman is a coal shoveler. The amount of coal he must put into the firebox in a given time varies with the size and construction of the locomotive, the class of service in which it is engaged, the weight and speed of the train, the quality of fuel, the grade of the road, weather conditions, and other factors, among which must be reckoned the skill of the fireman himself.

Taking the average of all locomotives upon a representative American railway in 1916, every switch engine burned 135 lb. of coal for each mile it ran, each passenger engine 105 lb., and each freight engine 229 lb. In covering a division of 100 miles the fireman of a freight locomotive would have to shovel more than 11 tons of coal through a low firebox door, stooping and swinging well back to spread the fuel or to place it on thin places in the fire, and opening and closing the door for every scoopful. He performs this labor standing on the unsteady deck of a locomotive, where an in-

experienced man might have difficulty in balancing himself without support. Among other duties of a physical character he must wet down the coal, break up the large lumps, pull the coal forward from the back of the tank or tender box—which sometimes amounts to double handling nearly half the fuel burned—shake the grates, and if the coal clinkers badly he must sometimes clean his fires in the course of the run. He takes on coal and water, attends to other engine supplies, watches the steam gage and the road signals on his side of the cab, and assists the engineer in minor phases of engine operation.

Besides being laborious these duties are sometimes attended by severe physical hardships. The heat thrown out by the fireboxes of the extremely large locomotives now coming into use is intense, especially when a long freight is barely moving up a heavy grade, devouring fuel as fast as it can be piled upon the fire, and making practically no breeze through the cab by its own motion. Firemen on runs of this kind sometimes have to protect themselves with leather aprons to keep the heat from igniting their clothing. When we add to these conditions an outside temperature of 100 deg. or more, such as not infrequently occurs in the southern and prairie states during the summer, a situation is reached that taxes the limits of physical endurance. At such times heat prostrations become frequent—as railway men say, the firemen “burn out” or “the monkeys get them.” They suffer undue strain when a badly clinkered fire has to be cleaned in the middle of a heavy run, for this is rated exceptionally exhausting labor. Firemen are also exposed to more or less suffering from smoke and from gases thrown back from the firebox in passing through long tunnels or snowsheds, especially where more than one locomotive is attached to a train. They sometimes lose consciousness and even die under these conditions.

Mechanical Improvements Lighten the Work

It is a matter of controversy between railway employers and firemen whether the labors and hardships of the latter are increasing or diminishing. On the one hand, much larger engines are now employed than formerly, and the tonnage of trains is constantly growing—two conditions that add to a fireman's burdens. On the other hand, important mechanical improvements have lightened the work of stoking, and the Brotherhood of Locomotive Firemen and Enginemen has secured new working rules in its schedules with many companies that relieve its members of some of their former labor. Such rules are those providing that men shall be stationed at intermediate points on a division to clean fires, or to pull down coal to the front of the tender, and that helper or relay firemen be furnished on exceptionally long or difficult runs.

However, new mechanical devices have contributed more than these rules to alleviating the fireman's condition. Oil-burning locomotives have made possible firing heavy trains through the south-western deserts, where the mercury reaches 120 deg. or more in the shade and the temperature of the breezes through the cab window almost rivals the blast from the firebox door. Brick arches and superheaters, by causing the gases in the firebox to be consumed more completely, and by utilizing a larger fraction of the heat generated for steam production, have lessened the amount of fuel employed to pull a given weight of train. Fire grates are now shaken by power, and air doors enable the fireman, by a mere pressure of his foot, to throw open the firebox to admit coal, where formerly he had to stoop over and pull the door open by a chain. Coal pullers automatically shift the coal forward in the tender tank to a point within reach of the fireman. Mechanical stokers feed the coal from the tender into the fire by a conveyor and blast contrivance, so that the fireman's stoking duties are reduced largely to attendance upon machinery.

An analysis of work performed by locomotive firemen in slow-freight service during four runs with hand-stoked and mechanical-stoked engines, respectively, affords the following

illustrative data: The four hand-stoked locomotives ran an average of 79 miles, pulling trains having an average weight of 3,149 tons, and the firemen were on duty an average of 14 hr. 9 min. Of this time they spent 7 hr., 3 min. in actual manual labor, of which 4 hr., 59 min., or more than one-third of the time they were on duty, was devoted to shoveling coal into the firebox. Most of the remaining time used in manual labor was employed in hooking and scraping fires, shaking grates, breaking up large lumps of coal, shoveling down coal from the rear of the tender, and cleaning fires. Each fireman handled with the scoop—directly into the firebox—about $11\frac{1}{2}$ tons of coal. The time not employed in manual work included rest intervals while running and station work and watching signals.

Similar figures for the four locomotives having mechanical stokers are: Average distance traveled, 115 miles; average weight of train hauled, 2,135 tons; time on duty, 13 hr., 10 min.; time devoted to actual manual labor, 4 hr., 5 min., or 19 per cent less of the time on duty than in case of hand-stoked engines; time employed shoveling coal by hand into the firebox, 1 hr., 24 min., or nearly 25 per cent less of the time on duty than in case of hand-stoked engines; amount of coal burned, $22\frac{1}{2}$ tons, about $2\frac{1}{2}$ tons being fired by hand.

Some objection is still made to mechanical stokers, though they are rapidly being improved. Those of an older type are noisy and dirty, keeping the cab full of flying coal dust. They are a recent invention, the number in use having risen from six of all designs in 1910 to 1,418 in 1916. Even the latter number would not supply the road service of one of our larger railway systems.

Firemen occasionally receive assistance from the engineer and the head brakeman. The latter may shovel down coal from the rear of the tender—though this is forbidden by union rules on some roads—or even fire the engine for a short period, especially in exceptionally hot weather when the fireman shows signs of playing out. He also lights signal lamps and performs other minor services around the engine as a matter of accommodation. Engineers sometimes assist in cleaning fires; indeed, one case was observed where both members of the engine crew and two members of the train crew, including the conductor, were engaged in this operation. Likewise in very hot weather an engineer will put an exhausted fireman at the throttle for a few minutes and fire the locomotive himself. But all these interchanges of service are voluntary, and are more or less the exception. They are looked upon with disfavor by union officials, as tending to create precedents that may be used oppressively by operating officers.

A fair summary of the present situation of locomotive firemen would seem to be that their duties are passing through a transitional phase, where exceptional labor and hardships are imposed in some instances, but where the promise exists not only of remedying these but of making the general condition of this branch of service better than before. The brotherhoods have thrown their influence toward mechanical improvements, in some instances making the adoption of labor-saving devices within a stated time an article of their agreement with employers. Some of these improvements, such as the brick arch and superheaters, are intended primarily to save fuel, which is a most important matter with railway managers. Exceptional hardship is just now imposed on firemen where train tonnage has been increased and large engines have been introduced without these improvements, where double-heading has become the rule not only on grades but over an entire division, and where the recent coal shortage has forced the adoption of inferior fuel, that increases the labor of shoveling and clinkers the grates so that fires demand frequent cleaning. The deterioration of motive power during the late railroad depression, and the subsequent period of excessive traffic and shortage of skilled mechanics, has also added to the labor of both firemen and engineers.

The Wabash-Pittsburgh Terminal Investigation

The Interstate Commerce Commission Finds This Expensive Little Road a Poor Business Venture

THE FOLLOWING excerpts are taken from the report of the Interstate Commerce Commission signed "by the commission" on the Wabash-Pittsburgh Terminal:

The building of the Terminal into Pittsburgh, the resultant break between the Gould and the Pennsylvania Railroad interests, and the subsequent bankruptcy of the Terminal, followed by the collapse of the scheme for a transcontinental railroad under Gould control, are important events in recent railroad history. The possibilities held out, when the bonds of the Terminal were first being sold, of that company's securing a large share of the traffic of the Pittsburgh district, were alluring, and the failure of the company to secure more than barely sufficient traffic to meet its operating expenses was complete. The plan of reorganization, now practically concluded, was unusually drastic.

The Terminal owns a 60-mile single-track road running over 88 bridges and through 18 tunnels from Pittsburgh Junction, Ohio, where it has a connection with the Wheeling, to the corner of Ferry street and Liberty avenue in the city of Pittsburgh. The entrance into Pittsburgh was secured by tunneling the rock-bound ridge on the west bank of the Monongahela river, crossing that river over a bridge 1,504 feet long, and by building a line to its Ferry street station and yards under an old street railway franchise. The record indicates that the Pennsylvania considered the Terminal's entrance into Pittsburgh an invasion of its territory.

In addition to its main line, the Terminal owned a majority of the stock of the Wheeling, and all of the stock and bonds of the coal company. The coal company, in turn, owned the stock and bonds of the West Side Belt—a single-track railroad 21 miles in length—running from a point in the west end of Pittsburgh to Clairton, Penn.

Following the failure of the Terminal to meet its note and interest obligations, receivers were appointed and shortly thereafter its traffic and trackage contract with the Wheeling and the Wabash, considered one of the Terminal's valuable assets, was canceled. Foreclosure proceedings were then brought. The properties of the Terminal were sold, on August 16, 1916, to a reorganization committee and are now owned by a new company, the Pittsburgh & West Virginia. While the property under consideration is now owned and operated by the Pittsburgh & West Virginia, it should be borne in mind that this investigation was confined to the Terminal and its predecessor companies.

Pittsburgh-Toledo Syndicate

The Pittsburgh-Toledo syndicate, formed by a written agreement dated February 1, 1901, and supplement of April 8, 1901, was the outgrowth, as the record shows, of the desire of Andrew Carnegie, of the Carnegie Steel Company, and of the Gould interests, to have another railroad serve Pittsburgh. The idea originated, apparently, with Joseph Ramsey, Jr. He was vice-president and general manager of the Wabash from 1895 to 1901, and president from 1901 to 1905.

George J. Gould, a director of the Wabash, Joseph Ramsey, Jr., its vice-president and general manager, together with Louis Fitzgerald, president of the Mercantile Trust Company of New York, were designated as syndicate managers. Later, Myron T. Herrick, chairman of the board of directors of the Wheeling, and James Hazen Hyde, president of the Equitable Trust Company, became members of the managing board.

The members of the syndicate subscribed \$20,000,000 to be used in acquiring control of the Wheeling and in building a line from a convenient point on the Wheeling to the city of

Pittsburgh. Ramsey was chosen as the active directing manager of the syndicate, and as such applied for charters and franchises, executed contracts for the building of the road, and supervised the expenditures.

In the Wheeling foreclosure proceedings Gould testified that at the time the syndicate was formed the object was to get a line into Pittsburgh and that a connection beyond Pittsburgh was not then contemplated. Ramsey, in the same proceeding, testified that he became president of the Western Maryland in 1903 because he had been made president of the Western Maryland syndicate. Gould was not, apparently, among the originators of the Western Maryland syndicate, but upon becoming interested later, requested Ramsey to serve on this syndicate, presumably to look after the Gould interests.

Neither Gould nor Ramsey testified that the Terminal was to be connected with the Western Maryland to complete the proposed so-called coast to coast line of the Gould interests, but B. A. Worthington, formerly vice-president of the Wheeling and the Terminal, testified in the foreclosure proceedings of the Wheeling as follows:

"If we could have multiplied the tonnage of the Wabash-Pittsburgh Terminal and carried out the plan Mr. Gould had in mind, of connecting up with the Western Maryland, and had the Wabash traffic going that way instead of going up around Detroit, we probably would have kept out of a receiver's hands."

F. A. Delano, who succeeded Ramsey as president of the Wabash and its eastern subsidiaries, testified in the same proceeding as follows:

"I understand it was Mr. Ramsey's idea to cross the Allegheny river with a line that crosses into Pittsburgh. He was trying to get a charter for a bridge, and there connect with the Buffalo, Rochester & Pittsburgh, and thus get an outlet to the east. He also expected, by means of the West Side Belt, and completion of the Western Maryland, to get a good connection or outlet to Baltimore. Both of these things would have made a tremendous change in the whole situation."

Immediately after its organization the syndicate managers entered into a contract with the Union Railroad and the Carnegie Steel Company at Pittsburgh, whereby the syndicate managers, in consideration of receiving certain traffic, agreed to construct, purchase, or lease such lines of railway as would be required to make a continuous route to Chicago.

The syndicate incorporated the Pittsburgh & Carnegie Railroad, and under its charter planned to effect an entrance into the city of Pittsburgh. This charter, however, conflicted with a charter previously granted to the Pittsburgh & Mansfield and so the property of the latter was purchased. The syndicate then incorporated the Washington County Railroad to provide an extension of the Pittsburgh & Mansfield to the Pennsylvania-West Virginia state line, and later consolidated the two companies into the Pittsburgh, Carnegie & Western. It also secured the incorporation of the Cross Creek Railroad and the Pittsburgh, Toledo & Western. Under the charter of the former there was to be constructed the line in West Virginia, and under the latter, the line in Ohio.

The syndicate purchased control of the Wheeling and caused to be executed a traffic and trackage contract between the Wabash, the Wheeling, and the Pittsburgh, Carnegie & Western.

As the construction work under the charters of the three separate railroad companies was nearing completion, the syndicate caused to be organized, by consolidation and merger, the Wabash-Pittsburgh Terminal, to which it made a pro-

posals to transfer the Wheeling stock, a majority of which, issued and outstanding, was owned by the syndicate; the Carnegie traffic agreement, and the traffic and trackage agreement between the Wheeling, the Wabash, and the Pittsburgh, Carnegie & Western were also assigned to the Terminal; the syndicate further agreed to call and pay over to the Terminal the unpaid portion of the syndicate subscription; to assign to it an agreement of the Wabash to purchase \$6,600,000 of Terminal first mortgage bonds for \$6,000,000; and, to discharge and release the Terminal from all indebtedness and claims owing to the syndicate. As the consideration of this undertaking the Terminal agreed to deliver to the syndicate \$20,000,000 of first mortgage bonds, \$20,000,000 of second mortgage bonds, and \$10,000,000 of capital stock.

The acceptance of this proposal by the Terminal resulted in the final call upon the syndicate subscribers and the winding up of the syndicate affairs.

The Wabash-Pittsburgh Terminal

The Wabash-Pittsburgh Terminal is the successor, through consolidation and merger on May 9, 1904, of the Pittsburgh, Carnegie & Western Railroad Company, the Cross Creek Railroad Company, and the Pittsburgh, Toledo & Western Railroad Company, as previously explained.

The articles of consolidation and merger provided that the capital stock of the new company should be \$4,000,000, consisting of 80,000 shares of a par value of \$50 each, and that it was to be exchanged, at par, for the capital stock of the merged companies. On May 11, 1904, the capital stock was increased to \$10,000,000 and this amount was subsequently issued. On the same date authority was given for the creation of a bonded indebtedness of \$70,000,000, consisting of \$50,000,000 first mortgage 4 per cent 50-year gold bonds, and \$20,000,000 second mortgage 4 per cent 50-year gold bonds. The bonds were to be dated May 10, 1904, with interest payable from June 1, 1904; the interest on the second mortgage bonds, however, was "to be payable for the period of six years from the date of such bonds only out of the net earnings and revenues of the company, as defined in said mortgage, and thereafter to be payable absolutely" on the interest dates.

The record clearly indicates that George J. Gould was the dominating factor in the management of the Wabash, the Terminal, and the Wheeling.

The first meeting of the board of directors of the Terminal on May 11, 1904, received and acted upon the before-mentioned proposal of the syndicate.

The proposition of the syndicate was approved and accepted by the board of directors at the same meeting, subject however, to approval of the stockholders, which was given at a meeting held on the same day.

The carrier, in the opening entries on its books, charged to "Cost of road," \$44,000,000, and to "Wheeling & Lake Erie Railroad—Stock on Hand," \$6,000,000, thus offsetting the par value of the following securities issued and outstanding:

Capital stock	\$10,000,000
First mortgage bonds	20,000,000
Second mortgage bonds	20,000,000

Traffic and Trackage Contracts

The contract between the Carnegie Steel Company, the Union Railroad and the syndicate, referred to in the syndicate's proposal to the Terminal, provided, in substance, that the syndicate should construct or purchase a line of railroad; that the proposed railroad should connect with the Wabash at Toledo; that there should be secured a traffic or trackage arrangement, or both, with the Wabash from Toledo to Chicago; that the Union Railroad should transport cars of the syndicate lines to the works, plants, and tracks of the Carnegie Steel Company, and the charge therefor should be agreed upon with a minimum of 10 cents per ton; and, that the Carnegie Steel Company should give to the syndicate

lines one-fourth of all the tonnage it controlled, when such tonnage was destined to or came from points within and west and south of "central traffic association" territory, but there was to be "deducted from the total tonnage, before computing said one-fourth, freight transported by water, freight routed by consignees, and ores, coal, coke, and limestone, to the works of said Carnegie Company over railways owned, controlled, or leased by said Carnegie Company." The contract was to remain in force for 20 years from February 4, 1901.

On October 10, 1902, the Wabash, the Wheeling, and the Pittsburgh, Carnegie & Western, one of the constituents of the Terminal, entered into a traffic and trackage contract. This contract provided, in substance, for the interchange of traffic, through train service, through rates and divisions, and the routing of traffic to the mutual benefit of the parties at interest. It also provided, in the event any dispute should arise with respect to the interchange of traffic, that each of the parties could operate its trains over the rails of the other party or parties.

The contract provided that, in fixing rate divisions, the Pittsburgh, Carnegie & Western, later the Terminal, would be allowed an arbitrary mileage of not less than 100 miles, instead of its actual mileage of about 60 miles. The contract was to continue in force for 20 years from the date of commencement of operations.

After the contract was made, the syndicate proceeded to build the Terminal property at great expense. The syndicate's subscribers would not accept the Terminal bonds and accordingly, in order to finance the Terminal, a supplemental traffic and trackage contract was executed. With respect to this supplemental contract, dated May 10, 1904, Ramsey further testified:

A. The syndicate subscribers, as represented by Mr. Herrick, Mr. Connor, and Mr. Sanders, declined to accept simply the plain bonds of the Wabash-Pittsburgh Terminal Railway Company just as they stood, without some sort of guaranty. They first wanted the Wabash guaranty.

A. Yes, Mr. Herrick, Connor, and others. And that could not be done, or was not agreed to; and then this supplemental contract was drawn up and afterwards acted upon by the various companies; in the nature of a compromise guaranty, you might call it. It was to give the guaranty of the Wabash and the Wheeling & Lake Erie of 25 per cent of the gross earnings from traffic over these roads, in either direction, to or from the Wabash-Pittsburgh Terminal, in the event of that being necessary to meet fixed charges or make up a deficit of the Wabash-Pittsburgh Terminal. That was the object of this supplemental contract, based on the underlying agreement.

A. The Wabash road, for instance, if it received \$2,000,000 per year in gross revenues from traffic to and from the Pittsburgh terminal, was to pay to the Wabash-Pittsburgh Terminal, in the event of its being necessary to make good a deficit on fixed charges (of the Terminal) 25 per cent of the earnings, leaving 75 per cent to the Wabash, which was estimated would meet all its (Wabash) expenses in handling the traffic, and leave a little over. If it (Terminal) did not need the money, it (Wabash) did not pay the 25 per cent, or 25 cents even, therefore it (Wabash) assumed no obligation; this money came to it (Wabash) from the traffic produced by the Wabash-Pittsburgh Terminal.

The supplemental contract also provided for the extension of the original traffic and trackage contract so as to make its duration 50 years instead of 20 years.

Physical Characteristics

The main line of the Terminal, approximately 60 miles in length, extends from a point at Liberty avenue and Ferry street, in the city of Pittsburgh, in a westerly direction through the foothills of the Appalachian Range, to Pitts-

burgh Junction, Ohio, where it connects with the Wheeling. Over its entire length it crosses a rugged, hilly country.

Except for the first 4 miles, practically all within the city of Pittsburgh, the maximum curvature is 3 degrees and the maximum grade seven-tenths per cent compensated for curvature. The Pan Handle, which is practically parallel, has frequent 1 per cent gradients and curvature up to 8 degrees. If corresponding gradients and curvature had been used on the Terminal the cost outside of Pittsburgh would probably have been reduced by at least one-half. The plans, however, provided for the lightest practicable gradient and curvature.

Eighteen double-track tunnels, having an aggregate length of 20,545 feet, were driven. One of these, called "Bigam tunnel," about 250 feet in length, was afterwards eliminated and changed to an open cut. The construction of the tunnels involved the following quantities:

Tunnel excavation	642,000 cubic yards.
Timber lining	17,000,000 feet B. M. Y. P.
Masonry lining	90,000 cubic yards.

It should be kept in mind that the entire roadbed construction, including cuts, embankments, tunnels, and bridges, was built for two standard-gage tracks, although up to June 30, 1916, only 4.1 miles of second track had been laid.

Inflation in Cost of Construction

In order to determine the actual amount of cash expended for road and equipment, all vouchers and other evidences of expenditures, charged by the carrier or its predecessor companies to road and equipment accounts, were examined, reclassified, and summarized.

From the foregoing the following condensed statement of account as of May 10, 1904, can be made:

Advanced by Pittsburgh-Toledo syndicate.....	\$15,873,000.00
Investment in road and equipment.....	\$15,761,530.86
Current assets and unadjusted debit accounts..	1,274,102.65
Current liabilities and unadjusted credit accounts.....	1,162,633.51
	\$17,035,633.51
	\$17,035,633.51

The opening entries on the books of the Terminal were not based upon the above figures. If they had been, the item of \$15,873,000 would have been offset by the aggregate of the securities issued, \$50,000,000, and the difference between these items, \$34,127,000, would have been carried as discount on securities issued. The amount of this discount would have been subsequently reduced by the following:

Cash received from syndicate	\$3,521,195.73
May, 1904	\$704,000.00
June, 1914	2,065,506.05
July, 1904	5,283.33
October, 1904	746,406.35
Wheeling & Lake Erie R. R. stock.....	6,000,000.00
Sale of second mortgage bonds.....	27,186.25
Second mortgage bonds held by treasurer (par value).....	7,000.00
Total	\$9,555,381.98

leaving a net inflation in the original capitalization of \$24,571,618.02. This assumes, of course, that the book value of \$6,000,000 placed on the stock of the Wheeling & Lake Erie railroad represents actual cost.

If the debit balance in the Terminal's road and equipment account on May 10, 1904, had reflected only the actual amount of cash expended for construction to that date it would have been \$15,761,530.86. This amount includes \$1,157,133.51, representing retained percentages due contractors, which was not entered on the books of the Terminal. Obviously the latter amount must be added to the difference between \$39,255,015.37 and \$15,761,530.86 in order to obtain the inflation in the carrier's property account as of May 10, 1904, according to its own records. The difference thus obtained is \$24,650,618.02. This amount differs with the final net inflation referred to above as \$24,571,618.02, by \$79,000, and is accounted for by the three following items:

Second mortgage bonds in the treasury.....	\$7,000
Liability for advances made:		
J. Ramsey, Jr.....	\$5,000	
J. W. Patterson	500	
		\$5,500
Political contributions to May, 1904.....	77,500
	\$84,500	\$5,500
Net difference	\$79,000

The political contributions were made between October, 1902, and February, 1904, to politicians in Pittsburgh, two receiving \$30,000 each and another \$17,500. An additional \$10,000 was contributed in February, 1905, to one who had previously received \$30,000.

The books of the Terminal show the following entries in the cost of road account:

	Debit.	Credit.
Capital stock	\$4,000,000.00	
First mortgage bonds.....	20,000,000.00	
Second mortgage bonds.....	20,000,000.00	
Open accounts		\$1,048,613.54
Advances to contractors.....	\$1,011,575.24	
Miscellaneous	2,770.81	
Green County Railroad.....	34,267.49	
Texas & California Construction Co.....		35,000.00
Cash from Pittsburgh-Toledo Syndicate:		
Transferred from Pittsburgh,		
Carnegie & Western Railroad \$112,989.11		
May, 1904	704,000.00	
June, 1904	2,065,506.05	
August, 1904	5,283.33	
October, 1904	746,406.35	
		3,634,184.84
Sale of second mortgage bonds.....		27,186.25
	\$44,000,000.00	\$4,744,984.63
Balance	\$39,255,015.37	

Reference has previously been made to an unpaid item carried forward from the old accounts under the title of "Texas & California Construction Company," \$35,000. It appears that this amount represents advances made in the early history of the Terminal to the construction company.

Character and Extent of Service

The Terminal has no direct connection with any large industries other than the mining operations, of which there are a dozen or more, located on its line in the vicinity of Pittsburgh. However, the branch connecting the West Side Belt and the Union Railroad furnishes connections with a number of industries located on the latter line.

The Terminal's traffic consists almost entirely of through carload shipments. The amount of local traffic is negligible. The bulk of the traffic consists of coal and ore. In 1916 coal and ore comprised almost 82 per cent, while in 1915 it exceeded 85 per cent of the total tonnage. The amount of general freight has, however, recently increased materially.

Owing to the Terminal's entrance into Pittsburgh at an elevation, the handling of traffic is difficult and expensive and the company is further handicapped by inadequate trackage facilities. It is estimated that about 25 per cent of the traffic, exclusive of coal and ore, is handled through its elevated terminal in Pittsburgh, which can accommodate approximately 40 cars, spotted. The Terminal would undoubtedly secure a larger share of the traffic of the Pittsburgh district if it were not for these operating disabilities.

Sale of Bonds

In addition to the \$20,000,000 of first mortgage and \$20,000,000 second mortgage bonds given to the syndicate as part consideration for the Terminal properties, there were issued, subsequent to May 10, 1904, \$10,236,000 of first mortgage bonds. For this latter amount of bonds there was received in cash \$8,309,382.87; the difference of \$1,926,617.13 between the par value and the proceeds represents brokerage charges and discount. To this should be added \$72,572.02 for other expenses incident to the issuance of these bonds and the \$40,000,000 of first and second mortgage bonds previously issued to the syndicate, making a total of \$1,999,189.15 expenses, commission, and discount suffered subsequent to May 10, 1904.

Vermilye & Company and Blair & Company purchased \$5,000,000 of the bonds during the months of October, November and December, 1904, at prices ranging from 82 to 84; Blair & Company purchased \$2,000,000 of the bonds in May, 1905, at 86 net; William A. Read & Company, through G. P. Butler & Brother, purchased \$2,000,000 of bonds in February and March, 1906, at 87 $\frac{3}{8}$; Frank J. Gould purchased \$500,000 of bonds in July, 1906, at 80 net; \$73,000 of the bonds were sold during January and May, 1908, at prices ranging from 49 $\frac{4}{8}$ to 58 $\frac{5}{8}$, and \$663,000 of bonds given as collateral for a note were sold at auction by the trustee in June, 1909, at an average rate of 39.93 per cent.

It is impossible at this time to ascertain the total amount of first mortgage bonds which were eventually sold through brokers to savings banks and insurance companies. The records of bonds deposited soon after the receivership in 1908 show, however, that savings banks deposited \$410,000 and insurance companies \$3,989,000 first mortgage bonds. Changes in ownership no doubt occurred between the date of the original deposits and the date of the final cash payment under the reorganization plan. Presumably some of the banks and insurance companies did not pay the cash required for the reorganization committee's records indicate that in March, 1917, savings banks which had made the final cash payment held \$189,000 and insurance companies \$3,086,000 of first mortgage bonds.

Results of Operations

The carrier's operations between December 1, 1904, the date determined upon as the date revenue operations began, and May 28, 1908, the date receivers were appointed, resulted in a deficit in net income for each year, amounting in the aggregate to nearly \$3,000,000. During this period the excess of operating revenues over operating expenses and taxes was about \$1,000,000, from which fixed charges of about \$4,000,000 were deducted, creating the deficit of \$3,000,000. If the revenue derived from the so-called traffic and trackage guaranty is excluded, it will be found that the carrier's operating expenses and taxes exceeded its revenues.

The operations for the period from May 29, 1908, to March 31, 1916, resulted in a deficit of about \$350,000. During this period of slightly less than eight years, the excess of operating revenue over operating expenses and taxes was about \$680,000. The deficit of approximately \$350,000 was caused by interest on receivers' certificates and other fixed charges.

Lack of freight cars and motive power was apparently one of the Terminal's greatest handicaps and no doubt figured largely in the conditions which brought about the receivership.

Receivership

Receivership proceedings were brought against the Terminal by the Wabash, and on May 29, 1908, F. H. Skelding and H. W. McMaster were appointed receivers. The receivership continued for over eight years, or until August 16, 1916, on which date the property was sold, on the order of the court, to the reorganization committee, the only bidder, for \$3,000,000. The sale was confirmed on August 30, 1916. In confirming the sale the court set aside the objections of the Fearon committee, which claimed that the price was inadequate.

The protracted period of the Terminal receivership was due, apparently, to the difficulty of the situation and by reason of the numerous efforts made by the various interests to work out a plan which would be acceptable to all. The earnings of the carrier, which usually form the basis of any reorganization plan, were uncertain and indefinite until the years 1914 and 1915. Prior to the receivership the Terminal and Wheeling properties worked in close harmony with each other, the Terminal, the Wheeling, and the West Side Belt being operated practically as one property. Upon the appointment of receivers, however, the traffic and trackage contracts were

canceled, the car pooling arrangement was discontinued, and in the words of the Terminal's receiver, each company "stood on its own legs."

A receivership, or an adjustment of the capitalization of the Terminal was, from the beginning, almost inevitable. The company was greatly overcapitalized and according to the testimony of the receiver, which is borne out by the statements of the carrier's earnings, the interest on the first mortgage bonds was not earned even when the payments by the Wabash and Wheeling, of 25 per cent of the gross earnings of these companies on certain business interchanged with the Terminal under the terms of the traffic and trackage agreement, were included.

At the commencement of the receivership the physical property of the Terminal was in poor condition, due to unfinished permanent construction and insufficient maintenance. In order to safely operate the property considerable expenditures have to be made and the money necessary for this purpose was provided largely through receiver's certificates.

Reorganization

The reorganization plan provided that the Terminal should retain control of the coal company and the West Side Belt. Immediately prior to the reorganization the total capitalization of the Terminal amounted to \$60,229,000, consisting of \$10,000,000 capital stock, all held by the Wabash; \$30,236,000 of first mortgage bonds; and \$19,993,000 of second mortgage bonds.

The reorganization plan provided that holders of Terminal first-mortgage bonds should make a cash payment of \$300 for each \$1,000 of bonds deposited with the reorganization committee, receiving in exchange \$300 in preferred stock and \$1,000 in common stock of the new company, the Pittsburgh & West Virginia, together with Wheeling stock on the following basis:

\$28 (par) of first preferred stock;
\$210 (par) of second preferred stock; and
\$390 (par) of common stock.

The plan provides that there will be only \$5,100,868 bonds and mortgages left outstanding in the hands of the public undisturbed by the reorganization. Of these \$3,922,000 are first mortgage bonds of the coal company; \$383,000 first mortgage bonds of the West Side Belt; and \$795,868 mortgages on Terminal real estate. On this basis, the annual interest charges for the Terminal and its subsidiaries will be reduced to \$261,103.

Conclusion

The result of the operation of the Terminal to date shows clearly that the building of this property was a poor business venture. Fifty millions in bonds were issued against a railroad 60 miles in length and which cost about \$25,000,000. The par value of its first mortgage bonds alone exceeded by approximately \$5,000,000 the actual amount of cash expended for property devoted to transportation at the commencement of the receivership. Notwithstanding the assurance of traffic contained in its traffic and trackage agreements, and the 25 per cent guaranty of the Wheeling and Wabash, the Terminal failed to secure sufficient tonnage to enable it to pay interest on its first mortgage bonds.

As has been already shown in detail, the Terminal was not only greatly overcapitalized but the percentage of its funded debt, 83.04 per cent, to total capital obligations was unusually high. Against an actual cash investment in road and equipment and securities of affiliated companies of approximately \$38,000,000, there was outstanding, when receivers were appointed, over \$61,000,000 in securities.

This case illustrates again the great need for control of security issues and emphasizes the wisdom of the Commission's requirement, which has been in effect since 1907, that the charges to the accounts reflecting the carriers' investment in road and equipment shall be based upon the cash cost of the property.

General News Department

A fire at the **Lehigh Valley freight transfer**, at Oak Island, near New York City, on February 10, destroyed 18 cars, 13 of them loaded, and a large section of the freight platform. Estimated loss, \$40,000.

The **Fuel Administration** has rescinded the Monday fuelless order, leaving discretion to the state administrators to keep it in force locally, with the approval of Director General McAdoo.

Two carloads of coal were "appropriated" by mobs at Tompkinsville, Staten Island, New York City, on February 6, and carried off in bags, buckets and baskets. In the mob were many women and children.

The striking longshoremen at New York city, now said to number about 2,000, have voted to return to work, pending the consideration of their grievances by the Board of Adjustment of the United States Shipping Board.

The **Fuel Administration** last week rescinded its order restricting the use of coal on Mondays so far as it applies to the states of North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi and Louisiana.

Senator Henderson, of Nevada, on February 7 introduced a bill, S. 3777, to make absolute the long and short haul clause of the fourth section of the interstate commerce act and take from the Interstate Commerce Commission discretionary power in enforcing it.

The shops of the **Pennsylvania** at Blairsville, Pa., on the Conemaugh division—a machine shop, a blacksmith shop and a boiler house—were destroyed by fire on February 5. Estimated loss, \$15,000. The fire occurred at 3 a. m. when the temperature was 10 deg. below zero.

The **Daylight Saving** bill was reported favorably in the lower House of Congress on February 9 by the Committee on Interstate Commerce. The bill provides for setting all clocks ahead one hour during the spring and summer months, beginning on March 30. The bill had already passed the Senate.

A pledge to save **Fuel Oil** is called for by Albert E. Swabacher, United States fuel administrator for California, who has sent a letter to all locomotive enginemen in that state. The Southern Pacific is the greatest consumer of fuel oil in that state and the co-operation of its employees is expected to mean in the aggregate a great saving for other industries. Mr. Swabacher's letter says that the storage supply of fuel oil in California is decreasing at the alarming rate of 1,100,000 barrels a month. The abnormal demands of the last three years have decreased the available storage supply by one half. The pledge cards, which were sent also to the firemen of all California roads, are being signed and returned to the fuel administrator. A duplicate pledge card is to be displayed in a prominent position in the cab of the engine at all times.

A shortage of passenger cars is reported by the **Pennsylvania Railroad**. This unusual condition has arisen in connection with the rapid growth of war industries in the section between Philadelphia and Baltimore. Special trains are run daily to and from such industries in six localities which require the use of 215 cars. These runs are: Between Philadelphia and Hog Island, 60 cars; between Baltimore and Sparrows Point, 70 cars; between Baltimore and Aberdeen, 45 cars; between Philadelphia and Eddystone, 22 cars; between West Chester and Eddystone, 8 cars; between Bristol and Eddystone, 10 cars. In addition, 10 cars daily will be required soon for special industrial service between Philadelphia and Bristol, Pa., and five between Trenton and Bristol for the employees of the shipbuilding plant at Bristol. In order thus to provide for these essential war industries, it has been necessary to limit the length of some suburban trains in the neighborhood of Philadelphia and Baltimore. Special passenger train service for war industries is also being operated at Erie, Pa., and Huntingdon, Pa.

Western Railway Club Meeting

The monthly meeting of the Western Railway Club will be held at the Hotel Sherman, Chicago, on February 18. **George Austin**, general inspector of boilers of the Atchison, Topeka & Santa Fe, will present a paper on "Locomotive Firebox Maintenance and Repairs."

Salaries of Officers and Directors

Director General McAdoo has recently addressed a letter to the railroads asking for information regarding the salaries of their officers, which was requested by Senator Cummins at a recent hearing before the Senate committee. The roads are asked to state the salaries of directors and of all officers paid more than \$10,000 a year.

Surplus Funds Already Transferred

The surplus funds on some railroads are already being transferred to others that have immediate need for cash. Later a clearing plan for such transactions will be established under the direction of John Skelton Williams, director of the Finance division.

Railway Strike in Argentina

Press despatches from Buenos Ayres dated February 9 report that a general railroad strike was called on that day throughout Argentina. Immediately upon quitting work the strikers began a wild anarchistic demonstration throughout the country. Trains were wrecked, tracks destroyed, cars laden with wheat were burned and wires were cut.

Troops were being rushed to points of greatest disorder in central Argentina. The large yards in the outskirts of Buenos Ayres, which cover 22 city blocks, were set on fire by the strikers, who fought off the firemen all Saturday morning. Exploding tank cars added to the conflagrations.

The strike is a fresh outbreak of the labor troubles which have been dormant since last October.

In the riots on the first day of the strike the destruction of property in the city of Buenos Ayres alone amounted to 1,000,000 pesos. Fully one-half of this loss was in wheat, corn and linseed which was burned.

Telegraph and Telephone Battalion

Has Complete Staff of Officers

The 416th Railroad Telegraph Battalion, the organization of which was noted in the *Railway Age Gazette* of December 7, now has a complete staff of officers. The commanding officer is Major Noten D. Ballantine, until recently assistant to the second vice-president of the Rock Island Lines at Chicago, and, previous to that, superintendent of car service of the same company, superintendent of transportation of the Kansas City Southern, and superintendent of telegraph of that road's predecessor, the Kansas City, Pittsburg & Gulf. The captains of the battalion include Clarence J. Bailey, who has been train dispatcher and chief dispatcher on a number of roads; Harold B. Sherwood, an experienced telegraph operator, and Julian A. Hielscher, surgeon; the first lieutenants are John B. Delany, battalion adjutant, chief telegraph operator for E. W. Wagner & Co., Chicago; Frank O. Johnson, traveling instructor, efficiency department, Pere Marquette; Clarke L. Sheets, operator and train dispatcher on the Grand Rapids & Indiana; and Rodolph Sheldon Udell, who has had experience as a telegraph operator, dispatcher and chief dispatcher on the Illinois Central, the Atchison, Topeka & Santa Fe, the Northern Pacific, the Mobile & Ohio and the Vandalia. The second lieutenants are Samuel W. Hallstrom, a commercial traveler with the Roberts Cone Company, and Edmund J. Miller, operator and dispatcher on the Coast lines of the Chicago, Milwaukee & St. Paul. At present the battalion is stationed at the Eighth Regiment Armory, Chicago.

Railroad in an Unusual Role

In a suit in the Superior Court of Essex county, Mass., at Salem, January 24, the Boston & Maine figured in the unusual role of plaintiff in a crossing accident, and of securing \$500 damages against the Peabody-Woburn Machine Company. At a highway crossing in West Peabody in June, 1916, a local passenger train was thrown off the track by an automobile freight truck, the locomotive being overturned. The owners of the truck had also entered suit against the railroad and both suits were tried at once. The owner's suit was dismissed and the jury awarded damages to the railroad as above stated. The driver of the truck was killed. No suit was brought by his estate.

Swat the Spy

The Boston & Maine has taken up the cry to "Swat the Spy." It has posted placards in its trains and devotes a page in its time tables emphasizing to its passengers the necessity of keeping their eyes and ears open and of reporting any treasonable action or word. The placards are headed in big red letters, "Your Obligation to Your Country," and close with the exhortation, "It is time YOU woke up—this war is real." In the timetables the appeal to the passenger says in part:

"Everything that happens to cripple transportation should be looked upon with suspicion. Every stranger or any person, whose actions are in any way unusual, must be made to prove his honesty of purpose.

"Every loyal railroad man and every loyal American citizen must make it his business to combat the insidious evil of treasonable treachery.

"Resolve to keep your eyes and ears open and to report to the proper authorities every suspicious thing you see or hear.

"Better a thousand times to do innocence a seeming injustice than to overlook the chance to prevent a terrible catastrophe.

"This war is real; treat it as such."

Additional Railway Honor Men

The Philadelphia & Reading reports that 25 of its officers and employees have received commissions in the army or navy in addition to those mentioned in the *Railway Age* of January 4, page 33. These additions to the names already published in the *Railway Age* make the total number of railway men now holding commissions 1507. The Reading men now holding commissions whose names have not yet been published are as follows:

OFFICERS WHO RECEIVED COMMISSIONS			
Name	Railroad Position	Military Rank	Branch of Service
M. A. Laucks.....	Tr. Mast., Harrisburg Div.....	Major	414th Teleg. Bat.
Philemon S. Lewis...	Pass. Tr. Mast., Read. Div.....	First Lieut.	Engineer Corps
EMPLOYEES WHO RECEIVED COMMISSIONS			
Harry Evans.....	Ch. Tr. Desp., Phila. Div.....	Captain	414th Teleg. Bat.
Francis S. Ferris....	Medical Examiner P. & R. Relief Assn.....	Captain	11th Cavalry
Hector Mansfield....	Asst. Tr. Mast., Phila. Div.....	Captain	21st Engineers
George W. Supplee...	Draftsman.....	Captain	Russ. Ry. Service
John S. Thompson...	Superv.....	Captain	302d Engr. Regt.
W. S. Tunnell, M.D....	Medical Examiner, Relief Assn.....	First Lieut.	
Ross M. Swartz.....	Brakeman.....	First Lieut.	
John W. Snyder.....	Clerk.....	First Lieut.	
Wm. H. Starbuck.....	Electrician.....	First Lieut.	
E. P. Morton.....	Computer Val. Dt.....	First Lieut.	
Edw. R. Meredith....	Superv. Wilm. & Col. Div.....	First Lieut.	Engr. Res. Corps
Ralph C. Keefer.....	Computer Val. Dt.....	First Lieut.	
Wm. B. Carll.....	Flagman.....	First Lieut.	
John L. Barrett....	Wharf builder.....	Second Lieut.	Russian Ry. Com.
Herbert G. Foster....	Land pilot Val. Dept.....	Second Lieut.	Quarterm. Detach.
Chas. S. Heebner....	Fireman, N. Y. Div.....	Second Lieut.	Co. C, 21st Engrs.
Henry R. Heebner...	Spec. Officer Clm. Dept.....	Second Lieut.	Marine Corps
Wm. May.....	Clerk Acct. Dept.....	Second Lieut.	Sixth Penna. Inf.
Robt. C. Montgomery...	Clerk Purch. Dept.....	Second Lieut.	35th Engineers
Chas. "Nodder".....	Clerk Compt. Of.....	Second Lieut.	311th M. G. Bat.
John W. Stapleton...	Clerk.....	Second Lieut.	
Chas. Olsen.....	Master P. & R. Tug "Conestoga" Junior	Lieut.	U.S.S. "Conestoga"
Thos. N. Saul.....	Capt. P. & R. bge. "Kimberton".....	Ensign	

Traffic News

The railroads in southeastern territory (south of the Ohio and Potomac rivers and east of the Mississippi river) no longer accept or issue prepaid ticket orders.

The Northern Pacific now runs its passenger trains directly into and out of Vancouver, B. C., and interchange of passenger traffic with the Canadian Pacific at Sumas, Wash. on the Canadian boundary, has been discontinued.

One cent a mile for members of the Grand Army of the Republic and of the United Confederate Veterans and their families to and from their annual reunions next summer, has been authorized by Director General McAdoo. The Grand Army of the Republic will meet at Portland, Ore., and the Confederate veterans at Tulsa, Okla. The reduction in fare will be confined to the veterans and members of their families who accompany them on certificates of identification which will be furnished by their department or division commanders.

The Agricultural Department of the Buffalo, Rochester & Pittsburgh is already moving to give to each employee the same plot of garden land that he had last year, if he desires it. As a result of last year's efforts over 28,000 bushels of potatoes were raised in "war gardens" by employees from seed furnished, gratis, by the company. Large quantities of other vegetables were grown. The three farm tractors which were rented to the farmers for plowing and harrowing last year were very successful and the company has bought three more; and it has sent out to all farmers adjacent to its line an inquiry intending to bring forth information which will enable the company to co-operate with the farmers to the best advantage. Especial attention is being given to ascertaining the horsepower in various communities, amount of help available and what success farmers are having in securing fertilizers.

Preference for Grain Traffic

Director General McAdoo announced on February 9 that in order to meet imperative demands for war purposes he had ordered that preference be given for the time being to the furnishing of box cars for grain and grain products and for the movement thereof in the States of Illinois, Indiana, Iowa, Wisconsin, Minnesota, North and South Dakota, Montana, Nebraska, Kansas, Missouri and Oklahoma, with the exception of less than carload merchandise. This preference will be discontinued as soon as the emergency is over. Meanwhile, every effort should be made by farmers, grain dealers and others to facilitate the accumulation, prompt loading and shipment of all kinds of grain.

Good Summer Travel Expected

The heroic measures adopted by the government to relieve freight congestion have affected passenger travel in the east by drastic curtailment of passenger service east of Chicago. Unnecessary to travel has been openly discouraged by Director General McAdoo, and active solicitation by eastern railways has been discontinued. Train schedules west of Chicago are generally retained, and the soliciting forces of western roads are continuing their usual activities both east and west. These roads have, nevertheless, discontinued most of their winter tourist advertising in the public press. The general shortage of coal, widely threatening the comfort of private homes, has variously affected normal social activities and has created a considerable hegira to the south. The net result of these varying influences upon travel has been a normal volume of winter traffic to the south and a considerable curtailment in volume to the far west.

If prediction is at all justified in our day, one may venture the guess that with the passing of a winter of unprecedented weather to hamper traffic, and with the salutary effects of the government's measures to meet the freight congestion, the current embarrassing conditions will be removed and summer vacation travel may be expected in the usual volume. It is reported that during the third year of the war, in both Australia and Canada (two countries bearing close geographical analogies to our own), the volume of domestic travel has not decreased.

The Department of State has announced that passports will not be issued to persons traveling for recreation. This affects those desiring to visit any foreign country except Canada, and inasmuch as Canada looks to "the States" for 70 per cent of her tourist income, this regulation will not be unwelcome to her. Commercial travel, under stimulation of war business, continues unabated * * *.—*American Express Company's Travel Bulletin.*

Government Freight on the Highways

Motor truck transportation across the State of New York is said to be no longer an experiment, and the State Defense Council announces that motor truck trains will be run this week between Buffalo, Rochester and Cortland and seaboard points. At the request of the Federal government the State Defense Council has taken steps to assure the convoy prompt passage through the State and to see that the 160 men accompanying the train are well cared for. There will be sixty trucks in the first train. A bulletin has been issued calling attention to the fact that under the laws of the State the duty of keeping snows from the roads devolves upon town authorities, and town highway superintendents are urged to begin immediate action to clear the routes, in order that the motor truck convoy be not delayed. The schedule from Buffalo calls for stops at Leroy, Geneva, Syracuse, Utica, Amsterdam, Hudson, Peekskill and New York.

Southern Pacific Pullman Bureau in San Francisco

The Southern Pacific has opened a central reservation bureau in San Francisco for the making of sleeping car reservations for all of its "trains out" of San Francisco for agencies around the bay and on the main line as far as Roseville, Stockton and San Jose. The plan enables six clerks to take care of 6,000 reservations a day; and patrons are saved 50 per cent of their time. The possibility of duplicate sales is eliminated. The bureau is connected by 13 special telephone lines with points in the district at which reservations originate. The bureau clerks sit at a large table with the diagrams in revolving racks within easy reach. They have three small telephone switchboards wired in multiple, and as a lamp lights on the board the first clerk who is free "plugs in" and takes the message. There is no moving about the room and no confusion. The apparatus was arranged and installed by E. L. King, superintendent of telegraph.

Embargoes on the Pennsylvania

The Pennsylvania Railroad has adopted a new plan of handling freight under embargoes. During the existence of an embargo, freight will be handled through a system of special permits covering each individual shipment. The consignee, not the shipper, must apply for the permit, and before authority will be granted to move freight affected by embargo the consignee must show that the goods are necessary to meet his existing requirements, and that he will be able to unload the car or cars without delay.

Two other important changes will be made. All superintendents will be authorized to grant permits for the movement of freight from point to point on their own divisions, and all general superintendents will be authorized to issue similar permits from point to point within their own grand divisions. For the issuance of permits to ship freight from a point on one grand division to a point on another grand division, or to or from points on another railroad, a new embargo bureau has been established at Broad Street Station, Philadelphia, under the direction of W. C. Glynn, assistant general freight agent.

The new plan will enable the railroad to exercise greater control over the movement of freight than has been possible heretofore, while consignees and shippers can arrange more promptly for transportation, as in many cases it will not be necessary to go beyond the division superintendent. It is the belief of the management of the railroad that the new plan will not only permit the movement of a larger volume of freight, but should enable a more uniform operation of industries. It is also expected to reduce materially the amount of correspondence and telegrams and the number of telephone and personal calls.

The new arrangement will not apply in connection with export traffic through New York, Philadelphia or Baltimore, or to domestic carload shipments to New York. This traffic, under war arrangements, is in charge of the Freight Traffic Committee, North Atlantic Ports, 141 Broadway, New York.

Freight Congestion Relieved

With the milder temperatures which have prevailed since February 6 the railroads in New York, Pennsylvania and New England have made rapid recovery from the serious paralysis under which they had labored throughout the two weeks previous to that day; and thus far the floods following the thaw have caused no very serious disturbance. On the Ohio river the high water has delayed some railroad traffic; and in northern New York there was a new fall of snow and continued low temperatures. With these exceptions the restoration of normal train movements has been general. On the main line of the New York Central the movement of freight has been uninterrupted.

The records of delayed freight, as issued by the eastern regional director, show that the principal roads are getting the better of the congestion at the rate of 5,000 to 8,000 cars a day, in the aggregate, counting both eastbound and westbound movements. In New York harbor, freed from floating ice, coal is moving in nearly or quite normal volume. The daily statement issued on February 13 showed 1,259 cars dumped; 696 anthracite; 563 bituminous. Cars of coal at tidewater yards, 1,247 anthracite and 643 bituminous. Cars in transit within 24 hours of tidewater, 930 anthracite, 804 bituminous. Vessels and barges loaded to be moved, 442 anthracite, 237 bituminous. Vessels and barges waiting for coal, 249.

The daily report of the general freight movement in "eastern" territory showed cars above normal, as follows: "Eastbound, loaded, today 44,969, yesterday 46,040, decrease 1,071. Eastbound, empties, today 5,823, yesterday 6,098, decrease 275. Westbound, loaded, 35,710 today, 34,081 yesterday, increase of 1,629. Westbound, empties, 30,488 today, 31,027 yesterday, decrease of 539."

In New England the weather on Wednesday showed 10 to 20 deg. above zero in northern sections, and 28 to 40 above, with some rain, in central and southern parts. Snow-plow had to operate in northern New England Tuesday on account of old snow drifting. Northern New York reported cloudy, and central and western New York cloudy and rain. Mild temperatures in all other parts. At New York in the 48-hour period ending on Wednesday 16 steamers bunkered with 11,115 tons of coal, and 61 cars of anthracite were moved through the Pennsylvania tubes to Long Island.

Receipts of coal at Chicago, in Wednesday's report, total 2,626 cars, which is 25 per cent above normal. Ohio lines moved 924 cars of coal from the coal fields. Loading at all mines on Tuesday was very light because of the holiday and miners not working on account of high water yesterday, causing suspension of operation. High water caused some interference with operation in central New York. The Baltimore & Ohio bridge over the Miami river at Dayton was carried away, blocking the road 48 hours or more. A steel bridge and a trestle over the Miami river at Lawrenceburg, Ind., on the B. & O., 20 miles west of Cincinnati, was carried out by ice, breaking the line between Cincinnati and the west.

In the west the higher temperatures which became general about February 6, enabled the railways to recover rapidly from the effects of the succession of storms which had greatly impeded operation for several weeks. The western regional director of railroads reports that the movement of traffic is now almost normal. Barring a recurrence of the severe weather just passed, there need be no further fear of fuel or food famines. The rains, which removed much of the snow in Chicago, northern Illinois and Indiana last week, took the form of sleet west of the Mississippi river and did much damage to wires in Iowa and Missouri.

The Indiana and Illinois coal mines are now working to capacity and are producing considerably more than a year ago. The output of Missouri mines is about equal to that of the same period in 1917, and the production of Iowa mines, with some exceptions, is rapidly approaching the record of last year.

Particular attention is now being devoted to the movement of grain, and especially soft corn, in western territory. This is in accordance with the priority order of the director general of railroads.

On February 9 and 10, a total of 1,721 westbound box cars were delivered to connections in Chicago, and on February 11, more than 1,000. About 3,000 cars are now being loaded with grain daily in western territory. Preference is given to grain over everything except fuel and fuel oil.

Commission and Court News

Interstate Commerce Commission

Increases ranging from 1 to 5 cents per 100 pounds in ocean and rail class and commodity rates from New York, Philadelphia and Baltimore rate points to Chicago, Mississippi river crossings and other western points are proposed in a fifteenth section application filed by W. J. Sedgman, agent.

The Interstate Commerce Commission has dismissed a complaint filed some time ago by C. E. Schaff, receiver of the Missouri, Kansas & Texas, against other southwestern roads, asking the commission to make an investigation of the practice of using 2-cent intrastate fares to defeat the through interstate rates. The complaint was dismissed "upon consideration of the record," and at the request of the complainant.

Western Cement Rates

In the matter of rates on cement between points in western trunk line territory and between points in western trunk line territory and adjacent territories. Opinion by Commissioner Daniels:

Reasonable maximum joint through rates to key points and distance scales are prescribed for the movement of cement in carloads between points in western trunk line territory and between points in adjacent territories and western trunk line territory.

Distances are to be calculated via short-line workable routes.

Fourth section relief is granted at points intermediate to key points, provided that the scale rates herein prescribed are not exceeded at such intermediate points, and that such rates are not in excess of the lowest combination.

A uniform minimum weight of 50,000 lb. is prescribed for the entire territory; a rate 13 per cent higher than the basic rate may be published for a minimum of 38,000 lb.

The practice of making through rates on cement on the basis of combinations is approved as to St. Paul, but disapproved as to Missouri river crossings.

Rates prescribed from Gilmore City, Ia., to all interstate destinations within the territory.

Carriers are directed to withdraw tariffs under suspension and to check in rates in accordance with the findings herein; formal complaints dismissed; fourth section applications denied, except where relief is consistent with the findings herein. (48 I. C. C., 201.)

Personnel of Commissions

P. J. Farrell, solicitor of the Bureau of Valuation, has been appointed chief counsel to the Interstate Commerce Commission, succeeding J. W. Folk, resigned.

The governor of New York has nominated for chairman of the Public Service Commission, Second district, to succeed Seymour Van Santvoord, Hon. Thomas F. Fennell, of Elmira, N. Y., now judge of the Court of Claims. The Senate has confirmed the nomination of F. J. H. Kracke and Charles B. Hubbell as members of the Public Service Commission for the first district.

Court News

Application of Workmen's Compensation Act

The Indiana Appellate Court holds that a railroad car inspector injured while taking a short cut to report to a railroad with which his employer exchanged services of employees under certain conditions, was hurt by an accident arising out of his employment within the Indiana Workmen's Compensation Act.—*In re Maroney* (Ind.), 118 N. E. 134. Decided December 21, 1917.

Yard Accident

The New Jersey Court of Errors and Appeals holds that no negligence is shown in the case of a yardmaster killed while standing between two tracks, by being struck by a car switched onto another, the customary warning by a halloo being given by several, and, so far as appeared, as soon as any one had reason to think there was danger, in view of the fact that the men had a right to rely on his exercising due care and changing his position if too near the track, a change requiring a shift of only a few inches.—*Healy v. Erie*. (N. J.), 102 Atl. 629. Decided November 19, 1917.

Order of Public Utilities Commission

The Ohio Supreme Court will not substitute its judgment for that of an administrative board created pursuant to an act of Legislature, such as the Public Utilities Commission, as to matters within its province; and before the court will interfere with an order of the Railway Commission or its successors as to issuance of stock by a railroad, it must appear from a consideration of the record that the commission's action was unlawful or unreasonable.—*Pollitz v. Public Utilities Commission* (Ohio). Decided July 3, 1917.

Construction of Switching Contract

A right of way was conveyed to a railroad company and the company covenanted to switch loaded cars between any industries located on its line in the city for one dollar a car. The Missouri Supreme Court holds that a lessee of the grantee company cannot be required to switch cars for the \$1 charge, where to perform the service it was necessary to pass over the tracks of an entirely independent corporation, the points between which it was ordered to switch cars not being on the line of the railroad company; the latter words referring to the physical line of such company, and not to the independent switching track of another company. *National Enameling etc. Co., v. Granite City & Madison Belt* (Mo.), 199 S. W. 238. Decided December 3, 1917.

Demand for Cars—Recovery of Penalty

The Georgia Court of Appeals holds that a demand for cars, addressed to the agent of the railroad company at a named point, will, where nothing to the contrary appears, be held to mean that the cars were required at the point at which the demand was made. It is also held that the remedy given by section 2635 of the Civil Code of 1910 and the rules of the Railroad Commission made in pursuance thereof is one in favor of shippers; and one who may have entered a demand for cars, without at that time disclosing his agency for another, cannot recover the penalty thus imposed, where it appears that at the time of the shipment it was disclosed that the cars were intended solely for the use of another, and the bill of lading was issued in the name of the true owner and shipper of the goods. *Central of Georgia v. Rabun* (Ga.), 94 S. E. 598. Decided December 13, 1917.

Injury to Pullman Passenger by Fright

In an action for damages against the Pullman Company by a woman passenger it was alleged that she was temporarily left alone in a sleeping car which had been placed on a siding in a city to await the next train; that she attempted to open the doors of the car and found them locked or too heavy to open, and that she became greatly frightened and fell into hysteria which lasted several days, and her health was greatly affected thereby. It appeared that the plaintiff only made a single effort to open a door and that it could have been opened by turning a knob and applying a twelve-pound pull. The Texas Court of Civil Appeals held that any negligence of the car porter in temporarily going away, leaving the plaintiff alone, was not the proximate cause of any injury to her from fright at being unable to open the door. If the evidence showed that the plaintiff used every effort to open the doors of the car, that did not disprove the uncontradicted fact that no Pullman car is ever locked so that it cannot be opened by applying the proper degree of force from the inside. Therefore the defendant could not have anticipated that a grown woman could not open the doors. And if she

could not have done so the defendant could not have anticipated that she would have been thereby thrown into hysterics and that the consequences alleged by her would have resulted from her fright. Judgment for the plaintiff was reversed and the cause remanded.—*Pullman Co. v. Gutierrez* (Tex.), 198 S. W., 1063. Decided November 21, 1917. Rehearing denied December 12, 1917.

Classification of Baggage

Under the act creating the Texas Railroad Commission delegating to it power to classify and subdivide all freight and property that may be transported over railroads, and despite the statute providing that each railroad passenger shall have an allowance of baggage not to exceed 100 lb., the Texas Court of Civil Appeals holds that it was within the power of the commission to classify and subdivide baggage, and to fix the articles included, determining that baggage shall consist of wearing apparel, etc., and articles carried as samples by traveling salesmen, since if baggage does not come within the term "freight," it comes within the term property.—*Levy v. Texas & New Orleans* (Tex.), 199 S. W. 513. Decided November 17, 1917. Rehearing Denied December 15, 1917.

Report of Railroad Agent

Held a Privileged Communication

The Georgia Court of Appeals holds that a report by the operating agents of a railroad to the superintendent of transportation, made for the purpose of being submitted to the company's counsel, in order that counsel might advise it as to whether or not there was liability on its part for anything connected with the transaction reported, and to enable such counsel to prepare for the defense of the defendant if litigation should arise out of the occurrence, which report was duly transmitted into the hands of such counsel as its proper custodian, constitutes a privileged communication, and its production cannot be enforced by the adverse party in a suit for damages growing out of the occurrence as reported; and this is true although such a report might have been made at a time so nearly contemporaneous with the transaction itself as might ordinarily permit its being received as a part of the res gestae thereof.—*Atlantic Coast Line v. Williams* (Ga.), 94 S. E. 584. Decided December 24, 1917.

Furnishing Cars for Coal

In view of a great shortage of cars suitable for coal shipments, occasioned by extraordinary conditions bringing into temporary activity a great many mines that are not equipped with tipples for loading cars, but demand pro rata allotments to them of open-top cars for their shipments, which cannot be furnished without serious detriment to permanent and properly equipped mines, the carrier and the general public, the West Virginia Supreme Court of Appeals holds that a railroad company of which such allotments and distributions are demanded may by promulgation of a regulation applicable to all such mines, assign its open-top cars to the permanent and properly equipped mines, and box cars to those loading without tipples and from wagons and trucks. Such a regulation, under such circumstances, is neither unreasonable nor unjustly discriminatory. *Baltimore & Ohio v. Public Service Commission* (W. Va.), 94 S. E. 545. Decided December 4, 1917.

TRADE WITH THE GOLD COLONY.—Imports of railway equipment and materials to the Gold Coast Colony, British West Africa, showed an increase of 56 per cent in 1916. The United Kingdom contributed about two-thirds and the United States about one-third of this increase.—*Commercial Report*.

COPPER OUTPUT VALUED AT \$510,000,000.—The production of copper from domestic ores in 1917 amounted to 1,890,000,000 pounds, or 38,000,000 less than in 1916, according to the United States Geological Survey. The domestic and foreign output is estimated at 2,362,000,000 pounds, an increase of 103,000,000 over 1916. The domestic production is valued at \$510,000,000, an increase of \$35,000,000 over 1916.

Equipment and Supplies

Locomotives

UNITED STATES GOVERNMENT.—See editorial comments on the Government Standard Locomotives as a War Measure, page 342.

THE PENNSYLVANIA EQUIPMENT COMPANY, 1420 Chestnut street, Philadelphia, Pa., desires to purchase a second-hand, 50-ton, four-wheel saddle tank locomotive with 16 by 24-in. cylinders.

THE CENTRAL OF GEORGIA has ordered 3 Mountain and 10 Mallet type locomotives from the American Locomotive Company. The Mountain type locomotives will weigh 318,000 lb., and the Mallet locomotives 440,000 lb.

THE MISSOURI, KANSAS & TEXAS, reported in the *Railway Age* of February 1 as ordering 20 freight locomotives from the American Locomotive Company, ordered not 20, but 25 locomotives. The locomotives will be of the Mikado type and will be superheated and weigh 314,000 lb.

Freight Cars

THE BUTTERWORTH-JUDSON COMPANY has ordered 75 tank cars from the Cambria Steel Company.

THE PENNSYLVANIA EQUIPMENT COMPANY, 1420 Chester street, Philadelphia, Pa., wishes to lease six 8,000-gal. tank cars for four or five months.

Trade Publications

BAKELITE MICARTA-D GEARS AND PINIONS.—The Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa., has recently issued a booklet describing the material and the methods of using Bakelite Micarta-D gears and pinions. This is a non-metallic material made up of a special heavy duck of uniform weave, thickness and tensile strength, bonded together with Bakelite by heating under enormous pressure. The material is developed for use where silent operation is desirable and it is especially valuable because of the fact that it is not affected by water or oil, or by most acid or alkali solutions. The booklet gives a complete description of the properties of the material, the methods of working it, a complete outline of the methods of designing the gears and considerable data for the use of the designer. The booklet is thoroughly illustrated with drawings and photographs. Copies may be obtained upon request to the company's nearest office.

TRADE OPPORTUNITIES IN THE ORIENT.—American consuls in the great commercial cities of Shanghai, Tientsin and Hankow report that the American population has increased 25 per cent, and that there never has been such an opportunity as at present to obtain a large share of the valuable oriental trade. A prominent official of one of our western railroads, writing of orient trade, says: "This Far Eastern business, in my judgment, is going to continue to grow by leaps and bounds, and I trust that the American business man will realize the possibility of this trade and become more aggressively acquainted with conditions in connection with the same. As I see it, the weakest point of the American business man is the fact that he does not travel abroad. It is only necessary for one to visit these Far Eastern countries to satisfy himself of the great opportunities that lie at our door across the Pacific, and I strongly urge every business institution that has any connection or desire of entering into this wonderful field to visit these countries (or send their representatives) and become acquainted with the real facts and more closely ally themselves with the people of the orient, where they will find an open door, a hearty welcome and many desirable and attractive business opportunities."—*Travel Bulletin* (Am. Exp. Co.).

Supply Trade News

The Schroeder Headlight Company, Inc., Evansville, Ind., has changed its name to the Schroeder Headlight & Generator Company.

C. H. Wilson, southwestern railroad representative for Fairbanks, Morse & Co., has been appointed first lieutenant in the Engineers' Reserve Corps and has been assigned to active duty.

G. F. Evans, formerly connected with the W. C. Moore Company, Columbus, Ohio, has been appointed supervising engineer for the National X-Ray Reflector Company, in the territory comprising Ohio, except Toledo and Cincinnati, West Virginia, and western Pennsylvania, with office at Columbus, Ohio.

G. R. Lewis, division freight agent of the Cleveland, Cincinnati, Chicago & St. Louis, with headquarters at Indianapolis, Ind., and for more than 20 years with the New York Central Lines, has been appointed manager of supplies and traffic, with the Standard Forgings Company of Indiana Harbor, Ind., and will have offices in the Railway Exchange building, Chicago.

W. N. Thornburgh, vice-president and general manager of the Harrison Railway Specialties Company, Sandusky, O., will devote his entire time to his duties as president and treasurer of the William N. Thornburgh Company, manufacturers of the "National" steel and wood dust guard, and purchasers and sellers of used rails, cars and locomotives. He will have headquarters in Chicago, as heretofore.

J. B. Henry, general superintendent of the Union Steel Casting Company, Pittsburgh, has been elected vice-president, to succeed **J. P. Allen,** recently elected president of the company. Mr. Henry will continue to discharge the duties of general superintendent, as heretofore. **W. C. Eichenlaub,** secretary, has also been appointed manager of sales. The other officers of the company are as follows: **C. C. Smith,** chairman of the board; **S. H. Church,** vice-president; **G. W. Eisenbeis,** treasurer.

Frank Fouse, who has been appointed works manager of the Marsh Refrigerator Service Company with office at Milwaukee, Wis., entered the service of the Pennsylvania in 1888. From 1896 to 1901 he was with the Pressed Steel Car Company at Pittsburgh, Pa.; from 1901 to 1908 he was with the Pittsburgh Testing Laboratory and in the latter year he entered the service of the United Fruit Company as general foreman of the car department on the Costa Rica division of the Northern Railway of Costa Rica.

Wilson S. Kinnear, E. A. Little and Carl H. Stengel announce the opening of the office of W. S. Kinnear & Co., engineers-investigators, at 111 Broadway, New York. The company will make general engineering and investment reports, investigations, valuations and reports on steam and electric railways. It may also be consulted on terminal, harbor and dock improvements and developments, land and subaqueous tunnels and heavy construction estimates and supervision, and will specialize on railway and public utility reports and valuations.

The Australian General Signal Company, Ltd.

This is the name of a new company incorporated under the laws of the State of New York, with its charter to be filed in Australia, which will handle the products of the General Railway Signal Company, Rochester, N. Y., and other kindred lines in Australia. The new company's Australian office is located at Dalton House, 115 Pitt street, Sydney, N. S. W.

The offices of the company are as follows: **Walter J. Plogsted,** managing director; **W. W. Salmon,** president; **George D. Morgan,** vice-president and treasurer; **J. P. Braam,** secretary, and **C. M. Terry,** assistant secretary and assistant treasurer.

Walter J. Plogsted, the new managing director, was at one time resident engineer for the General Railway Signal Company at

New York. Since February 1, 1913, he has been employed as an engineer by R. W. Cameron & Co., an export house with a number of branches in Australia. The new company terminates the former arrangement with R. W. Cameron & Co. Mr. Plogsted's headquarters will be at Sydney, New South Wales. **C. M. Terry,** the new assistant secretary and assistant treasurer, was also formerly connected with R. W. Cameron & Co. His headquarters are also in Sydney.

The directors of the company are: **J. N. Beckley,** Rochester, N. Y.; **Thomas W. Funicane,** Rochester, N. Y.; **W. W. Salmon,** Rochester, N. Y.; **George D. Morgan,** Rochester, N. Y.; **C. H. Littell,** Buffalo, N. Y.; **W. J. Plogsted,** Sydney, New South Wales, and **C. M. Terry,** Sydney, New South Wales.

The Chicago Pneumatic Tool Company

The Chicago Pneumatic Tool Company is doing four times as much business as in the pre-war period, according to its annual report for the year ended December 31, 1917, recently made public. In addition, the net profits have exceeded those of any previous year, even after providing for an additional tax of 4 per cent. on the company's net income and for the excess profits war tax. The increased demands made upon the company by the much larger volume of business have necessitated the borrowing of more money to cover increases in the cost and amount of material and labor used, but the sums which have been borrowed are more than offset by the increase in the value of current assets. The company's plants have been taxed to capacity to fill the orders received, making improvements and additions necessary. At the same time the physical condition of the plants has been maintained as usual. The British and Canadian subsidiary companies, both more or less under the control of their respective governments, retained their earnings for the year for additional working capital. To facilitate the marketing of the Little Giant truck, a subsidiary company, known as The Little Giant Truck Company, was incorporated in 1917, with a nominal capital stock which is owned and held entirely by the Chicago Pneumatic Tool Company.

The gross profits for the year 1917 amounted to \$2,006,372. Deductions of funds for developing and perfecting new tools and for the depreciation of physical property amounting to \$437,582; deductions for interest on bonds, and an installment for a sinking fund amounting to \$171,725; and a reservation for income, war income and excess profits taxes amounting to \$227,674, leave a net profit of \$1,169,390. From this amount \$257,952 were set aside for dividends aggregating 4 per cent per annum, and the remainder, exclusive of \$100,223 retained by the subsidiary companies for working capital, was added to the surplus as of December 31, 1916, making the surplus carried forward \$3,648,064.

Large Metal and Chemical Interests

Combine Business Under New Name

Announcement was briefly made in last week's issue of the *Railway Age* that the business of both the Goldschmidt Detinning Company and the Goldschmidt Thermit Company will hereafter be conducted by the "Metal & Thermit Corporation" with general offices at 120 Broadway, New York. These two concerns have been practically combined for the last two years and have occupied joint offices at the above address. The combination, which is controlled exclusively by Americans, has now been put in more permanent form as it is felt that this will tend towards greater efficiency and co-ordination of effort.

The detinning department of the Metal & Thermit Corporation will carry on one of the largest industries of its kind in the world, i. e., the recovering of tin from tin scrap. Approximately 100,000 tons of tin scrap is treated yearly by this department and the recovery approximates the equivalent of 2,000 gross tons of metallic tin. The output of this branch of the corporation consists of pig tin of a quality equalling Straits tin, tetrachloride of tin and detinned billets, the latter being the iron scrap after the tin is removed, compressed into billets and used by iron and steel plants for remelting.

In regard to the Thermit department, this will continue the production and sale of Thermit welding materials and apparatus as well as the various carbonfree metals and alloys which are produced by the aluminothermic process. The process was first introduced in the United States in 1902 and since then the business has grown very fast, particularly in recent years when there has been a very large demand for the metals as well as for the

welding materials. In addition to its line of carbonfree metals and alloys, the company produces pure tungsten powder of high quality and in very considerable quantity. It is also selling agent for the output of a large plant in the Middle West producing 50 per cent electric furnace Ferro-Silicon.

The Thermit Welding process is used by practically all the railroads in the United States and Canada for welding broken locomotive frames and other heavy sections. It is also used very extensively by the different steel mills for welding broken equipment, such as rolls, pinions, crank shafts, etc. In fact over 1,000,000 lb. of Thermit is used annually by these two industries alone. The process is extensively employed for the welding of rails for trolley lines, the welding of broken sternposts and rudder frames of steamships and for other welding operations too numerous to mention. The process is quite different from either oxy-acetylene or electric welding and is adapted to a much heavier class of work.

The Metal & Thermit Corporation operates four different plants, located respectively in Jersey City, Chrome, N. J., Wyandotte, Mich., and East Chicago, Ind. The Chrome and East Chicago plants are devoted to the detinning industry; the Wyandotte plant to the production of liquid chlorine and the Jersey City plant to the Thermit products, including welding materials, carbonfree metals and alloys and pure Tungsten powder. The corporation operates branch offices and welding shops in Pittsburgh, Chicago, San Francisco and Toronto.

The following are the officers and directors: W. T. Graham, Edgar L. Marston, Daniel G. Reid, F. S. Wheeler, Hubert E. Rogers, F. H. Hirschland, E. L. Ballard, L. A. Welles, Charles F. Dane, Philipp Gensheimer and Fred W. Cohen.

Chicago Railway Equipment Company Celebrates Its Twenty-fifth Anniversary

The Chicago Railway Equipment Company celebrated its "Silver" anniversary on the evening of February 5 at the Union League Club, Chicago. It was the twenty-fifth consecutive annual dinner held around the same table and in the same room. The participants included members of the organization, directors, shareholders and guests.

The table was set for 64 places, and was in the form of a dumb-bell. Two large round tables, 15 ft. in diameter, were placed at the ends; the curved "handle" connecting them being some 21 ft. long. In the center of each round table was the company's trade mark "Creco," 4 ft. in diameter, made of red carnations, and encircled by 12-in. silver letters "Twenty-Fifth Anniversary."

Around the table were 25 miniature transmission poles, replicas of a product of the Franklin plant, used as table lights and bearing the anniversary numbers from one to twenty-five. Alternating were 25 miniature poles, each having a curved bracket holding a suspended silver bell, the clapper of each marking the years from 1893 to 1917. There were other appropriate decorations in silver and carnation red. Practically all the decorations except the flowers were a product of or made by the company.

President E. B. Leigh informed the guests that the dinner was an adjourned shareholders meeting and that all had in due and regular form been clothed with proxies.

In his annual report he recalled that the company had never passed or reduced a dividend and that in the 25 years the distribution to stockholders had aggregated \$3,355,000, all based upon an original cash investment of \$30,000 which had never been increased by sale of securities. He announced that an extra dividend of 25 per cent had been declared at the directors' meeting held in the afternoon, and in commemoration of the 25th anniversary, 5 per cent in cash and 20 per cent in stock, the capital stock having been increased to \$3,000,000.

In the quarter century the floor space devoted to the business of the company had increased from 30,000 sq. ft. to over 800,000 sq. ft., the total land owned to about 60 acres and the number of plants from one to five, located at Chicago, Detroit, Grand Rapids, Mich., Monon, Ind., and Franklin, Pa. Founded originally upon its brake beam business, the company had so far diversified its product that now about 70 per cent is sold to customers other than railroads.

Mr. Leigh also told how the company had started with the original "Hein" (National Hollow) brake beam, and how at the expiration of the foundation patents fifteen years later it had in turn brought on the market the "Creco" brake beam. How ef-

fectively this worked out, he added, was "evidenced by the fact that so far as known not a single National Hollow brake beam has ever been manufactured or sold by any other than your own company." He also took occasion to comment on the recent rapid developments in the railway situation. He was unable to prophesy what lay ahead, or in his own words—"Standing upon the threshold of 1918, we are confronted with a tremendous interrogation mark—What?" He also commented on the new problem at Washington—standardization—but added that "whether standardization or the present system which recognizes the advantages of initiative, progress and the constant striving for higher efficiency shall prevail" the company is sufficiently well equipped to meet whatever condition may prevail and is confident of receiving its fair share of future business.

The matter of standardization was also brought up later in the evening by Frank W. Noxon, secretary of the Railway Business Association and one of the guests at the big table. In his remarks Mr. Noxon said:

"We have before us, when peace shall come, the project of re-constituting our whole railway system, in some way yet to be thought out, and to be debated out. We have a very animated, a very active, thorough-going propaganda, which has for its purpose to place all of the transportation agencies in the hands of the government. Of course, one of the first things that would result from that would be that the provision of appliances, the provision of rolling stock, and of tracks, of signals, and all those things would be centralized in the hands of some governmental agency.

"I have been wondering how, under such a system, it would be possible for a series of events to occur, such as we heard recorded tonight in these reports; how the event, which I noticed particularly, when at one stage a patent was about to run out, and when the inventive geniuses of the institution were set to work to provide an improvement over the old device—how such an event could come about.

"Naturally, if the government were to have in its hands the matter of developing the equipment, the men who now and in years past have devoted themselves to improvements in competition one with another, first asking the consideration of one railroad, and then finding that railroad indifferent, going to another, and so on until some hospitable mind was found—instead of that the purveyor or developer or inventor goes to some central board not composed of men who have direct personal interest at stake in proving their hospitality towards the new, but men perhaps overburdened with detail, tempted to standardize and overstandardize—and a deaf ear is turned, perhaps. Suppose it is—there is no recourse, there is no appeal. The improvement projected in the mind of the inventive genius is stopped, then and there.

"I question if men of the calibre of the men who have made this company what it is would be attracted to go in or stay in a business where the opportunity was in the hands, as it would be, of a government board.

"I just want to ask you to think of the great advantages, if we can have it, of maintaining some degree of decentralization, in the future, in the development of railway equipment.

"I think we all feel quite open-minded toward substantial changes from what has been in the past. We expect that what we have learned in the war will teach us things that we must apply and embody in a new system; and the question is whether or not we may have, when it is all over, sufficient decentralization so that the plans and schemes for the improvement of railroads may proceed from below, from the railroad managers themselves, and not from some bureau, static and stagnant, so that business men and inventors, men of imagination, will be attracted into that business, and the American people and the whole world have the benefit of rapid rather than slow progress."

The toastmaster for the evening was H. S. Burkhardt, for 13 years president of the company, and who for 15 years has officiated as toastmaster at its annual dinners. Mr. Burkhardt introduced a number of the "old guards" in the company.

In the course of the evening lantern slides were shown of the various plants at various stages both of prosperity and of calamity with a few merry cartoons of company celebrities.

The secretary of the company, E. F. Walker, supplemented the president's report with historical material of a more detailed character, after which the assistant to the president, Arthur Wyman, introduced a number of friends and guests of the company. Among those who spoke were: Judge J. A. Baldwin, Harry C. BuLoup, Willard A. Smith, Frank Wyman, Wm. E.

Clow, Paul Bakewell, Frank W. Noxon, Samuel O. Dunn, Frank D. Reid, Geo. P. Fisher, J. H. Holbrook, W. E. Seatrice, J. M. Hopkins, L. B. Sherman, Geo. R. Nichols, J. H. Bennett.

American Locomotive Semi-Annual Report

The directors of the American Locomotive Company last week issued to the stockholders of the company a semi-annual report for the six months ended December 31, 1917, in which it was shown that the profits available for dividends in the latter six months of 1917 were \$3,969,251, as compared with \$3,630,834 in the same period of 1916.

An abstract of the report follows:

The net profit for the six months ending December 31, 1917, of \$6,010,009, before deduction of taxes, includes \$439,376 of profit on the munitions business, the remaining profit of \$5,570,633 was made entirely from the regular locomotive business of the company. The net profit for the six months ending December 31, 1916, of \$5,453,334, before tax deductions, included a profit on munitions work of \$3,663,520.

The locomotive output of the company for the six months ending December 31, 1917, was practically all obtained from the Schenectady, Brooks, Pittsburgh and Cooke plants, which collectively represent about 70 per cent of the company's locomotive capacity. The Richmond and Montreal plants of the company, which had been engaged exclusively on munitions work since 1915, finished their munitions contracts in July and August, 1917, and the work of restoring those plants for locomotive manufacture was completed during October, 1917. The cost of this restoration work has been charged to a reserve created for this purpose out of previous years' profits and no part of such cost is charged against the income for the six months under review.

The amount of money in inventories of materials and work in process on December 31, 1917, was \$27,830,295. In the largest year of business prior to the war the amount of such inventories was about \$11,000,000. This very large increase of about \$16,800,000 is due to the higher cost of materials and labor, and also to the rearrangement of our locomotive production schedules, to meet the war requirements of the government, which resulted in postponing the construction of locomotives, the material for which had been delivered to our plants.

The company received from the United States government on July 24, 1917, a contract for 150 locomotives to be used in France for the transportation of our troops and supplies. These locomotives were completed during the months of September and October.

Due to the unsettled conditions in Russia the management thought it wise to obtain an adjustment of the contract made in July, 1917, with the Russian government for 250 locomotives, and with the aid of the United States government an adjustment has recently been effected, which, in view of all conditions, is satisfactory to the company.

The company has had numerous inquiries from its stockholders as to dividends paid during the calendar year 1917 in relation to income tax returns. The preferred and common dividends paid by this company in January, 1917, were declared in November, 1916, out of the surplus profits arising from the business of the company for the period ending December 31, 1916. All other dividends paid during the year 1917 were declared out of the profits of the year 1917.

The company had on its books on December 31, 1917, unfilled orders amounting to \$75,624,849.

CONDENSED INCOME ACCOUNT OF THE AMERICAN LOCOMOTIVE COMPANY AND ITS SUBSIDIARIES.

	Six months to Dec. 31, 1917	Six months to Dec. 31, 1916	Increase or decrease
Gross earnings.....	\$35,959,126	\$37,863,594	—\$1,904,468
Manufacturing, maintenance, administrative expenses and depreciation.....	29,851,294	32,326,743	—2,475,449
Interest, etc., on bonds of constituent companies, notes, etc.....	\$6,107,832	\$5,536,851	\$570,981
Profit.....	97,823	83,517	14,306
Reserve for United States Income and Excess Profits taxes and Canadian Business Profits tax.....	\$6,010,009	\$5,453,334	\$556,675
Profit available for dividend.....	2,040,758	1,822,500	218,258
Dividends on preferred stock for six months.....	\$3,969,251	\$3,630,834	\$338,417
Dividends on common stock for six months.....	875,000	875,000
Surplus profit.....	625,000	625,000
	\$2,469,251	\$2,130,834	\$338,417

Financial and Construction

Railway Financial News

FITZGERALD, OCILLA & BROXTON.—J. A. J. Henderson, president of the Ocilla Southern, was the highest bidder for the Fitzgerald, Ocilla & Broxton at a receiver's sale on February 5. This is the third time the road has been offered for sale, the court declining to confirm previous sales.

NEW YORK, NEW HAVEN & HARTFORD.—This company is further reducing its note indebtedness by calling for redemption on April 12, of \$241,000 5 per cent collateral trust notes of certain designated numbers, at 101 and accrued interest. This is in accordance with indenture providing that if any collateral is sold notes must be retired with proceeds. The company has already bought in \$1,000,000 face value of these notes, and with those now called for redemption, the amount maturing on April 15 is reduced to \$43,759,000 from the original \$45,000,000 issued last April.

WABASH-PITTSBURGH TERMINAL.—See comments elsewhere in this issue.

Railway Construction

CHICAGO UNION STATION COMPANY.—This company will build a 14-story warehouse, 328 ft. by 151 ft., on Canal street between Washington and Randolph streets, Chicago. The building will be erected for Butler Bros. and W. R. Linn to take the place of a warehouse which was acquired by the Union Station Company in order to meet the requirements of its terminal plans. The new building will be constructed by John Griffiths & Sons, contractors, and will cost about \$2,500,000.

BLOCK SYSTEM NOT NECESSARY.—From a report printed in Montreal it appears that on the Hudson Bay Railway—or that portion of the line on which track is laid—a train is now run every two weeks. It is for the accommodation of fishermen who have taken fish from the lakes of Northern Manitoba and who otherwise could not find a market. The railway is still in the hands of the contractor; but the government has undertaken to guarantee that the running of the trains shall not be done at a loss.

LOCOMOTIVE DEVELOPMENT IN SOUTH AFRICA.—In his report for 1916 the general manager of the South African Railways and Harbors makes the following comments upon locomotive development: The further improvement of the locomotive boiler is a subject that has engaged the attention of mechanical engineers for some time. The superheater has added greatly to the steaming efficiency, and has neutralized the difficulties associated with the firing of large engines to maintain the pressure of steam necessary for the work required of a modern locomotive. But increased steam pressures are still desirable, and experiments are being conducted in different parts of the world with new boiler designs and other improvements calculated to develop the steaming efficiency and the steam pressure of the locomotive. That very high pressures can be raised and maintained by means of tube or pipe generators has already been established, but it has yet to be proved whether a generator of this type can be successfully adapted to locomotive practice. A generator on these lines has been designed by the superintendent (mechanical), Johannesburg, and inquiries are being made as to the practicability or otherwise of his proposals. The design involves a radical departure from present practice, and will require most careful investigation and consideration before further action is taken. In the experimental stage oil fuel may have to be used, but the object in view is to adapt the engine to burn coal dust, and, that being so, the result of the advance that is being made in the United States with engines designed to use pulverized fuel is being watched with special interest, especially in view of the fact that the use of such fuel eliminates fire hazard.—*Engineering, London.*

Railway Officers

Executive, Financial, Legal and Accounting

Milton Smith has been appointed general solicitor of the Denver & Salt Lake, succeeding **Tyson S. Dines**, resigned.

E. D. Levy, first vice-president and general manager of the St. Louis-San Francisco, with office at St. Louis, Mo., has resigned, effective May 1.

W. C. Yarborough, cashier of the Atlantic Coast Line, with office at Wilmington, N. C., has been appointed assistant treasurer, with headquarters at Wilmington.

C. C. Michie, chief clerk in office of vice-president of the Chesapeake & Ohio at Richmond, Va., has been appointed an assistant secretary, with headquarters at Richmond.

Gaston Craig Hand, who has been elected vice-president of the Kansas City Southern, with headquarters at New York, as has already been announced in these columns, was born on July 2, 1870, at Belmont, N. C., and was educated at St. Mary's (now Belmont Abbey) College, Philadelphia Law School and New York University. He began railway work in February, 1891, and served successively as station agent and telegraph operator on the Atlantic Coast Line until September, 1893. He was then despatcher's apprentice and train despatcher on the same road to June, 1896, and later served as assistant in the superintendent's office. In July, 1901, he went to the Pennsylvania Railroad as a clerk in the transportation department. From August, 1902, to September, 1904, he was engaged in transportation and other work with bankers in Philadelphia and New York; then was statistician with Ladenburg, Thalmann & Co., bankers, New York. In February, 1908, he was appointed examiner for the Interstate Commerce Commission, Washington, and in December, 1909, he was appointed secretary of the Kansas City Southern, with office at New York, which position he held until his recent appointment as vice-president of the same road, as above noted.



G. C. Hand

J. W. McCullough, auditor of the lines east of Houston, Tex., of the Gulf Coast Lines, has been promoted to general auditor, with headquarters at Houston, Tex., effective January 15.

W. H. Wright, superintendent of the Wisconsin & Michigan, with office at Peshtigo, Wis., has been appointed auditor, with headquarters at Menominee, Mich., succeeding **M. F. Schulze**, resigned. **W. J. Moriarty**, cashier, has resigned.

Decatur Axtell, vice-president of the Chesapeake & Ohio, the Hocking Valley, and the Chesapeake & Ohio of Indiana, with office at Richmond, Va., resigned from those companies on February 8.

M. P. Blauvelt, controller of the Lehigh Valley, has been elected vice-president with offices at New York and Philadelphia, Pa. A photograph of Mr. Blauvelt and a sketch of his railway career were published in the *Railway Age Gazette* of June 29, 1917, page 1508.

W. H. Hough, auditor of receipts and disbursements of the Susquehanna & New York and the Tionesta Valley, with office

at Williamsport, Pa., has been appointed general auditor, and **C. F. Bower** has been appointed auditor of receipts and disbursements, succeeding Mr. Hough.

The election of **William P. Kenney**, vice-president of the Great Northern, with headquarters at St. Paul, Minn., as president of that road is announced elsewhere in this issue; **Ralph Budd**, assistant to the president, with headquarters at St. Paul, has been elected executive vice-president.

Charles Molony, assistant to vice-president and general manager of the Central of Georgia, with office at Savannah, Ga., has been elected president of the Wrightsville & Tennille, with headquarters at Tennille, vice **Henry D. Pollard**, resigned to accept service with another company.

Operating

W. C. Zeigler has been appointed car accountant of the Susquehanna & New York, with office at Williamsport, Pa.

W. C. Barnwell, first trick despatcher of the Georgia, Southern & Florida, has been appointed chief despatcher, with office at Macon, Ga.

T. J. Regan, trainmaster on the Northern Pacific, at Livingston, Mont., has been transferred to Forsythe, Mont., succeeding **L. W. Martin**, transferred.

M. Eady, chief despatcher of the Georgia Southern & Florida, has been appointed superintendent of the Hawkinsville & Florida Southern, with headquarters at Ashburn, Ga.

W. A. Todd, general roadmaster of the Charleston & Western Carolina, with office at Augusta, Ga., has been assigned the duties also of trainmaster, with the title of trainmaster and general roadmaster.

E. B. Fisher was appointed superintendent of the Minnesota, Dakota & Western, with headquarters at International Falls, Minn., succeeding **F. L. Birdsall**, resigned, effective January 1.

M. L. Phelps, superintendent of the Denver & Salt Lake, with office at Denver, Colo., has been appointed general superintendent, with headquarters at Denver, in charge of transportation, mechanical, roadway and engineering departments.

R. J. Carmichael, division passenger agent of the Illinois Central, at Chicago, Ill., has been appointed to the newly created position of instructor of passenger train and station employees on the entire system, with headquarters as before at Chicago, effective February 16.

A. E. Fillmore, superintendent of car service of the Kanawha & Michigan, with office at Columbus, Ohio, has been appointed superintendent of freight transportation, with the same headquarters. **F. H. Young** has been appointed superintendent of car service, with office at Columbus, succeeding Mr. Fillmore.

H. E. Newcomet, superintendent of the Pennsylvania lines west of Pittsburgh, Southwest system, with office at Louisville, Ky., has been appointed superintendent of the Logansport division, with office at Logansport, Md., vice **George Le Boutillier**, transferred, and **Taber Hamilton**, superintendent, with office at Decatur, Ill., has been appointed superintendent of the Louisville division, vice Mr. Newcomet.

W. C. Copley, freight trainmaster of the Pennsylvania Railroad, with office at Altoona, Pa., has been appointed special agent; **W. B. Moore**, passenger trainmaster, with office at Altoona, has been appointed trainmaster; **J. B. Phelan** has been appointed freight trainmaster, and **L. L. Banks** has been appointed passenger trainmaster; **H. DeHuff** has been appointed assistant freight trainmaster, with office at Huntington.

J. H. Owen, superintendent of transportation of the Florida East Coast, with office at St. Augustine, Fla., has been appointed general superintendent of transportation. **A. L. Pooser**, superintendent at New Smyrna, has been appointed superintendent of transportation, Northern division, with office at New Smyrna, and **E. L. Klein**, superintendent at Miami, has been appointed superintendent of transportation, Southern division, with office at Miami.

J. K. Johnston, superintendent of the Philadelphia division of the Pennsylvania Railroad lines east of Pittsburgh, with office at Harrisburg, Pa., has been appointed superintendent of the Tyrone division, with headquarters at Tyrone; **F. W. Smith, Jr.**, acting superintendent of the Conemaugh division, at Pittsburgh, has been appointed superintendent of the Philadelphia division, with office at Harrisburg; **J. B. Hutchinson**, superintendent of the Tyrone division, at Tyrone, has been appointed acting superintendent of the Conemaugh division, with office at Pittsburgh; **R. H. Pinkham**, division engineer of the Pittsburgh division, at Pittsburgh, has been appointed assistant superintendent of the same division, with headquarters at Cresson; **Thomas A. Roberts**, agent at Erie, has been appointed assistant superintendent of the Philadelphia division, with office at Glen Loch; **G. M. Smith**, freight trainmaster of the Maryland division at Wilmington, Del., has been appointed assistant superintendent of the same division, with headquarters at Lamokin, and **W. M. Post**, assistant signal engineer in the office of the signal engineer, at Philadelphia, has been appointed assistant superintendent of the Middle division, with headquarters at Mifflin.

Traffic

H. A. Jordan has been appointed general freight and passenger agent of the Wadley Southern, with office at Savannah, Ga.

M. J. Curry has been appointed commercial agent of the El Paso & Southwestern, at Detroit, Mich., succeeding **D. A. Davies**.

C. Dowling has been appointed traffic manager of the Edmonton, Dunvegan & British Columbia, with office at Edmonton, Alta., succeeding **A. Campbell**.

G. I. Martin, traveling freight and passenger agent of the Denver & Rio Grande, at Salt Lake City, Utah, has been promoted to general agent, at Reno, Nev.

P. A. Marr, district passenger agent of the Illinois Central, at Cincinnati, Ohio, has been appointed division passenger agent, at Chicago, Ill., succeeding **R. J. Carmichael**, promoted, effective February 16.

Ferdinand G. Lantz, assistant general freight agent of the Erie, with office at Chicago, Ill., has been appointed general agent of the Chicago and Hammond terminals, vice **Charles D. Ward**, transferred to New York.

Jonas Waffle, general freight and passenger agent of the Chicago, Milwaukee & Gary, at Chicago, Ill., has resigned and his office has been abolished. **R. E. Owen** has been appointed assistant general freight and passenger agent, with office at Chicago, Ill., effective February 1.

H. T. Duffy, general agent of the Minneapolis, St. Paul & Sault Ste Marie, at Toronto, Ont., has been appointed district passenger agent at Duluth, Minn., succeeding **W. H. Lennon**, who has been appointed city passenger agent of the Duluth, South Shore & Atlantic and the Soo Line, with the same headquarters. The Toronto office has been closed.

Engineering and Rolling Stock

V. B. Wagner has been appointed chief engineer of the Cripple Creek & Colorado Springs, with office at Colorado Springs, Colo., succeeding **M. J. Burgdorf**.

V. N. Potts has been appointed general foreman of the locomotive department of the Chicago, Rock Island & Pacific, with headquarters at Liberal, Kans.

H. C. McCullough and **W. P. Murphy** have been appointed road foremen of equipment of the Chicago, Rock Island & Pacific, with headquarters at El Reno, Okla.

W. W. Lemen has been appointed superintendent of the motive power and car departments of the Denver & Rio Grande, with office at Denver, Colo., succeeding **W. J. Bennett**.

J. M. Kerwin, master mechanic of the Chicago, Rock Island & Pacific, with headquarters at Estherville, Ia., has been transferred to newly opened headquarters at Silvis, Ill. **R. J. McQuade**, general foreman of the locomotive department, at

Chicago, Ill., has been appointed master mechanic to succeed Mr. Kerwin, with headquarters at Estherville, Ia.

J. H. Roach, valuation engineer of the New York Central lines west, has been appointed valuation engineer of the lines east and west, with headquarters at New York and Cleveland, Ohio.

W. B. Steeves, locomotive foreman of the Canadian Northern, with headquarters at Saskatoon, Sask., has been promoted to assistant master mechanic of the western district, with headquarters at Edmonton, Alta.

E. M. Sweetman, master mechanic of the Southern Railway with office at Spencer, N. C., has been transferred to the Coster shop, Knoxville, Tenn., as master mechanic, succeeding **N. N. Boyden**, resigned to go into other business.

F. O. Walsh, superintendent of motive power of the Georgia Railroad, has been appointed superintendent of motive power and equipment also of the Atlanta & West Point and the Western Railway of Alabama, with office at Montgomery, Ala.

W. F. Kuhlke, assistant trainmaster of the Charleston & Western Carolina, has been appointed superintendent of motive power; the position of master mechanic at Augusta, Ga., made vacant by the death of **T. B. Irvin**, has been abolished.

R. Faries, division engineer of the Williamsport division of the Pennsylvania Railroad lines east of Pittsburgh, with office at Williamsport, Pa., has been appointed division engineer of the Pittsburgh division, with headquarters at Pittsburgh; **E. J. Ayars**, division engineer of the Allegheny division, at Oil City, has been appointed division engineer on the Williamsport division, with office at Williamsport; **C. M. Wisman**, division engineer of the Elmira division, at Elmira, N. Y., has been appointed division engineer of the Allegheny division, with office at Oil City; **W. E. Brown**, assistant division engineer of the Pittsburgh division at Pittsburgh, has been appointed division engineer of the Elmira division, with office at Elmira; **C. W. Richey**, master carpenter of the Pittsburgh division, at East Liberty, has been appointed assistant division engineer of the Pittsburgh division, with office at Pittsburgh; **C. E. Zortman**, division engineer of the Conemaugh division at Pittsburgh, has been appointed division engineer of the Delaware division, with office at Wilmington, Del., and **S. L. Church**, division engineer of the Delaware division, at Wilmington, has been appointed division engineer of the Conemaugh division, with office at Pittsburgh.

Purchasing

W. E. Allen has been appointed purchasing agent of the Gulf, Florida & Alabama, with office at Pensacola, Fla.

M. Velasco has been appointed local purchasing agent of the Constitutionalist Railways of Mexico, with office at New York, vice **F. E. Carrero**, resigned.

J. L. Diessl, division storekeeper of the Atchison, Topeka & Santa Fe, at Riverbank, Cal., has been transferred to Calwa, Cal., succeeding **J. A. Brackett**, who was transferred to Bakersfield, succeeding **W. H. Bunch**, who has entered the National Army. **J. W. Riddings** has been appointed storekeeper at Richmond, Cal., succeeding **H. I. Heath**, who has also entered the National Army.

Obituary

W. H. Guerin, formerly general agent of the Chicago & North Western, at Detroit, Mich., died at Monterey, Cal., January 30, aged 59 years.

Nathan A. Sims, general freight and passenger agent of the Ulster & Delaware since 1887, with office at Kingston, N. Y., died on February 7, at the age of 62.

F. T. Lasier, formerly general agent of the passenger department, of the Chicago Great Western, at Chicago, Ill., died at his home in that city on February 4.

J. W. Bushnell, formerly chief engineer of the Florida Railway & Navigation Company, now a part of the Seaboard Air Line, died on February 4, in his home at Tallahassee, Fla., at the age of 66.